NCVHS Analysis and Identification
of
Minimum but Inclusive Functional Requirements
for the
Nationwide Health Information Network
Draft 082306

DRAFT 082306 Framework for Identifying Minimum but Inclusive Functional Requirements for a Nationwide Health Information Network (NHIN)

PURPOSE

NCVHS was asked by the Office of the National Coordinator for Health Information Technology (ONC) to identify minimum but inclusive functionality for nationwide health information networking, based on detailed functionality identified by the four contractor consortia developing NHIN prototypes. An analysis of the 977 detailed functional statements supplied by the contractors to ONC was performed and is provided under the "Analysis" worksheet. In addition, information about the functionality and potential gaps was obtained from the NHIN Public Forum, June 29, 2006; NCVHS hearings on July 27-28, 2006 in order to reduce duplication and bring forward functions that are minimum but inclusive. These are identified in the "Categorization of Min Incl Fcns" worksheet.

OBSERVATIONS AND ASSUMPTIONS

An important premise in identifying minimum but inclusive functionality for a nationwide health information network is to appreciate that such a network is not a specific entity, but a system of systems. There may be architectural variations - over time, by location, and by specific needs. For purposes of bringing forth a minimum but inclusive list of functions, NCVHS focused on what functions need to be performed, not necessarily by whom, where, or in what technical manner they may be performed. For example, terminology services are a minimum but inclusive function, but may be performed by Edge Systems themselves, by a terminology service company contracted by an Edge System, or by a subnetwork organization of some type.

Concurrent with this draft, NCVHS is working on clarifying architectural variations and may describe these further in a subsequent version of this document.

## CATEGORIES OF FUNCTIONAL REQUIREMENTS

NCVHS has categorized the networking functions using the following guiding principles and as illustrated in the Venn diagram below.

Network functionality may be provided by network service providers and/or other networks. These functions primarily support the identification that data for a specific purpose exists at a specific location or locations, and the functions required for accurate and secure transport of the data from the one or more locations to another location across the NHIN. NCVHS has identifed functions and, where applicable, has grouped them and made them generic if they apply to any location/potential use case for exchange of health information. Where network functionality may be unique to a type of entity, it is retained for that purpose.

Functional requirements for edge systems relating to networking. These functional requirements may at different times and different locations be performed by different types of entities. Within the functional requirements for edge systems relating to networking, two categorizations have been made: Where the function relates generically to locations and content, it has been categorized as GENERAL EDGE. Where the function is specific to a location or content, it has been categorized as SPECIFIC EDGE.

Functions that apply exclusively to an edge system are those where an application at a specific location interacts with the information and applies it in a useful and appropriate manner. NCVHS has identified these within the analysis of the complete set of detailed functions as those that apply exclusively to edge functionality and has not brought these forward as minimum but inclusive networking functions.
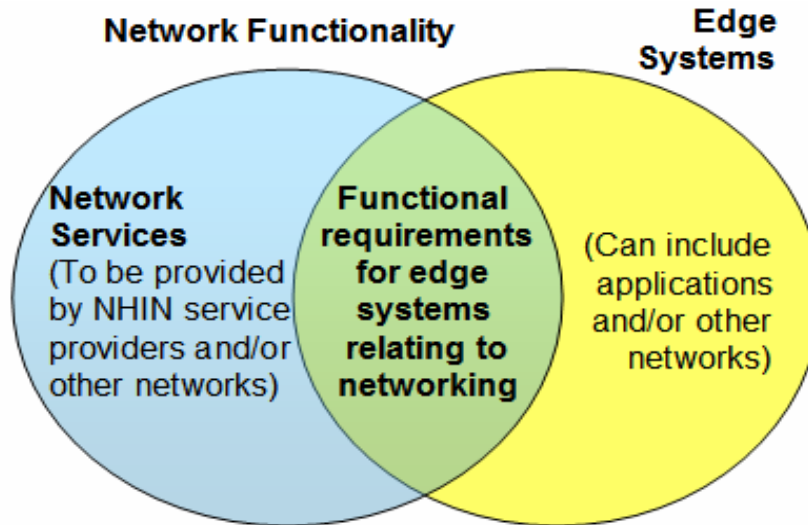
OTHER CONSIDERATIONS

In addition to functions the NHIN should support, there are considerations relating to regulations, policies, standards, business case, funding, roles of persons and entities, workflow, and other issues. The NCVHS task focuses on functional requirements, but may also document other specific issues relative to the functional requirements as may seem appropriate.

TAXONOMY FOR CONCEPTUALIZING NHIN FUNCTIONAL REQUIREMENTS

The Office of the National Coordinator for Health Information Technology (ONC) provided a framework for conceptualizing NHIN functional requirements in its Proposed Functional Requirements, Version 3, document of April 16, 2006. In this document, ONC identified the concepts of "core" and "edge," and proposed a "taxonomy for cataloguing the functional requirements" by functional category. The functional categories are defined below, in alphabetical order. The categorization was grouped by the NHIN contractors, as displayed in the Category Tabulation and Categorization of Minimum but Inclusive Functions worksheets. The minimum but inclusive list of functions - whether performed at the level of the NHIN or at an edge system - is provided on the "Categorization of Min Incl Fcns" sheet.

Functional Categories

The following functional categories defined by ONC have been grouped by the six major categories identified by the consortia, and sequenced by NCVHS:

SECURITY

Authentication – The ability to uniquely identify and validate (to a reasonable degree) the identity of an entity. These requirements are applicable to systems, services, and organizational actors.

Authorization – The ability to determine and grant access to systems, services and data based on prescribed parameters (instantiated authorization/access policies). For example, the process of granting authority or delegation to specified actors.

Confidentiality – The ability to ensure that data are not disclosed (e.g., viewed, obtained or made known) to unauthorized individuals per organizational policies. Functionality to provide privacy, de-identification,

Credentialing – The process of validating or confirming the qualifications of licensed professionals, e.g., clinical provider. These functional requirements are distinct from authentication and authorization.

INFORMATION LOCATION

Identity/Information Correlation – The ability to map information or entities with other entities (e.g., individuals or organizations, or necessarily a named system or network user). For example, correlating clinical information to the system or network-known identity of a patient where the patient. .

Record Location – The ability to determine the location of data.

DATA TRANSACTION

Data Retrieval (Pull) – The functional requirements to support the request/retrieval of data.

Data Transmission (Push) – The functional requirements to support the unsolicited sending of data.

Audit and Logging - Functionality to support the recording of transactions and capability to review such recordings. For example, the functionality to support the identification and monitoring of activities within an application or system.

Data Access and Update –The ability to retrieve, view, and modify data, within prescribed policies.

Data Routing – The ability to identify a receiving system and ensure delivery of data.

Data Transaction Verification* - This category was added by contractors without further definition.

Configuration* - This category was added by contractors without further definition.

DATA TRANSFORMATION

Data Filtering – The functional requirements to support identifying and/or qualifying data that needs to be

Data Mapping/Translation – The functional requirements to support reformatting or expressing data in different terms. These requirements may relate to terminology and/or message structure.

Data Rendering – The ability to present data.

DATA CONTENT

Data Content - There may exist requirements on data that constrain the context and use of data exchanged within the NHIN. While many data requirements may be deferred to review of specifications or standards, there may be some high level data constrainst that should be included within the Data Content functional category (e.g., requirement for structured or unstructured text).

Data Quality/Data Integrity – The functional requirements to ensure data is correct and complete, including the ability to verify that data were transferred.

Data Source – The functional requirements to support the identification of the data/information point of origin.

Data Usage – There may exist requirements on data that constrain the context and use of data exchanged within the Nationwide Health Information Network. While many data requirements may be deferred to review of specifications or standards, there may be some high level data constraints that should be included within the Data Usage functional category.

DATA STORAGE

Persistent Data Storage – The ability of a system to function as a data repository.

Transient Data – The ability of a systems to function as a data repository for a given entity for a given period of time or purpose.

<u>**Non-Functional Categories**</u>
Below is a proposed list of categories that include system qualities or "non-functional" requirements. As noted above, the expectation is that categories of non-functional requirements will only be designated where the property has a substantial impact on the architecture and capabilities of the Nationwide Health Information Network or a use case.

Accuracy – a measure of the application service quality - from the customer's perspective, the precision with which responses are provided to customer inquiries.

Business Rules – Policy driven dynamic requirements that may change during the operation of the system, requiring that the system adapt to the change without major rework.

Performance – a measure of the degree to which an entity satisfies its intended purpose.

Robustness – a measure of the ability of system to adjust to unanticipated conditions (i.e., the ability of a system to adjust to unanticipated conditions without losing its endurance and level of quality).

Scalability – a measure of the ability of system to adjust or extend to changing demands (user load, data load).

Summarized 081606 without inclusion of gaps.	Total Categorized	Network Functionality	Functional requirements for GENERAL edge systems relating to networking	Functional requriements for SPECIFIC edge systems relating to networking	Original Core	Original Edge	Total Original
Security							
Authentication	**11**	6	5	0	20	26	46
Authorization	**9**	5	4	0	41	50	91
Confidentiality	**3**	1	1	1	13	17	30
Credentialing	**3**	1	2	0	3	8	11
Information Location							
Identity/Information Correlation	**16**	7	5	4	34	22	56
Record Location	**6**	6	0	0	24	1	25
Data Transaction							
Pull	**13**	6	7	0	21	59	80
Push	**8**	1	2	5	13	47	60
Audit and Logging	**27**	13	12	2	61	76	137
Data Access and Update	**11**	2	5	4	4	28	32
Data Routing	**5**	2	2	1	9	6	15
Data Transaction Verification*	**0**	0	0	0	0	3	3
Configuration*	**1**	1	0	0	2	0	2
Unknown	**0**	0	0	0	0	1	1
Data Transformation							
Data Filtering	**6**	3	3	0	11	18	29
Data Maping/Translation	**6**	1	2	3	2	33	35
Data Rendering	**6**	2	4	0	5	18	23
Data Content							
Data Content	**8**	4	3	1	5	40	45
Data Quality/Integrity	**7**	3	4	0	14	37	51
Data Source	**3**	0	1	2	1	14	15
Data Usage	**2**	1	1	0	12	63	75
Data Storage							
Persistent	**0**	0	0	0	2	27	29
Transient	**1**	1	0	0	2	1	3
Non-Functional							
Accuracy	**0**						
Business Rules	**0**						
Performance	**0**						
Robustness	**0**						
Scalability	**0**						
Total	**152**	66	63	23	299	595	894

* These are not listed on ONC categorization

Functional Categories DRAFT 082306	#	Network Functionality A NHIN should . . .	Functional requirements for GENERAL edge systems relating to networking Edge systems should . . .	Functional requriements for SPECIFIC edge systems relating to networking	ID from Original Source Spread sheet	Potential Gaps or Architectural Variations	Sources of Potential Gaps or Variations	Agree/ Disagree ?	Proposed Rewording	Additional Minimum but Inclusive Functionality that is Missing	Is this Fcn common to any arch or does it imply a specific arch (and if so, please describe)?
SECURITY											
Authentication	1	Authenticate entity access to NHIN interface	Authenticate entity to NHIN interface		IBM-209-02 NGIT-129 NGIT-094						
	2	Authenticate all users to NHIN interface	Authenticate user accesses into the system		ACN-07.6 ACN-07.6.1 and CSC-SEC-50	Edge systems should authenticate their own users. The strength of the authentication should be passed with the user information so that a responding Edge system may determine if that is sufficient for disclosure.	VHA (Note: VHA seems to use "entity" and "system" synonymously.)				
	3	Authenticate all systems to NHIN interface	Verify authenticity of system sending data		ACN-07.6.2 and IBM-304-03	Generate authorization for re-linking	FHA				
	4	Protect user and system authentication credentials during transmission from the user to the NHIN.			ACN-07.6.2 ACN-7.8.3	Support secure mechanism for transmission of user credentials during authentication process.	FHA				
	5	Provide a mechanism for ensuring non-repudiation.	Provide a mechanism for ensuring non-repudiation.		ACN-07.7 and ACN-07.9						
	6	Authenticate Record Locator Service to remote record locator and receive error message if requesting locator is not authorized or if content of data request location is not verified.	Authenticate Record Locator Service		IBM-209-24 IBM-209-25						
Authorization	1	Authorize an entity's request for data	Allow NHIN-based users to access only data sets associated with their assigned roles.		IBM-209-07 NGIT-151 NGIT-005 and ACN-07.11.3	Ability for **CDO** to opt-out of biosurveillance activities. HIPAA Privacy Rule should serve as the minimum standard for the use and disclosure of PHI from the NHIN or from Edge Systems. When a legal authority is not present, the patient or legal representative should execute a signed written authorization for disxclosure. Management of authorization needs to include addition and revocation of authorizations.	FHA VHA				
	2	Associate a single role with any one user session.			ACN-07.11.4	Architectural variation					
	3	Provide NHIN administration capabilities (e.g., creation of permissions) to be executed only by authorized NHIN users.	Designate an administrator role covering administration of internal resources.		ACN-07.11.7 ACN-07.12.3 ACN-07.12.6 ACN.07.12.7 and						

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	4	Provide consent management to capture an individual's consent to sharing data, make any changes in consent, and allow authorized access based on consent status.	Provide consent management to capture an individual's consent to sharing data, make any changes in consent, and allow authorized access based on consent status.		ACN-07.1 ACN-07.1.1 ACN-07.1.2 ACN-07.1.3 ACN-07.1.4 IBM-302-03 and ACN-07.2 ACN-07.2.4						
	5	Provide an appropriate Edge System registration/certification capability before access to the NHIN is granted.	Establish user authorizations to use specific functions of the system		ACN-07.3.2 ACN-07.3.3 ACN-07.3 ACN-07.3.1 and CSC-SEC-60	Fully support registration requirements (i.e., key components, approvers, authorizations, out-of-band registration, etc.) Registration of	FHA SureScripts				
						Support the specific roles of research for access to patient and de-identification of data	FHA				
Confidentiality	1	Enforce NHIN security and privacy policies, HITSP security standards, and HIPAA and other federal, state, and logal legislation/regulation			CSC-SEC-190 IBM-107-09 ACN-07.20 ACN-07.20.1 ACN-07.20.2 ACN-07.20.3	Enable systems to securely transmit data outside of the health architecutre and between entities within the health architecture	FHA				
	2	**NHIN Interface** should assure that randomized linker is attached to anonymized data before transmission and support re-linking for public health purposes			IBM-102-07 NGIT-066 NGIT-069 NGIT-116						
	3	**Messaging Handling Systems** and **All Edge Systems** should support transport level security and protect confidentiality of data and services over the network using encryption.			CSC-SEC-10 NGIT-006						
Credentialing	1	Register entities and system administrators to participate in the NHIN	Register patients, providers, public health users, system administrators to participate in the NHIN		CSC-SEC-240 ACN-04.3 ACN-04.6 and ACN-04.1 ACN-04.2	Ensure that credentialing information is accurate.	FHA				
	2		Maintain the identities of its Users, according to a written and approved security policy.		CSC-SEC-250						
	3		Provide look-up and reconciliation service for third parties		IBM-203-02						
						Verify user credentials across NHIN, and with National Provider Identifier and National Plan Identifier Enumeration Systems	VHA				
INFORMATION LOCATION											

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Identity/Information Correlation	1	Use the Record Locator Service to resolve (link and unlink) patient indentiy amibiguities	Provide method for clinician and locator system to agree on patient identity through patient trait matching, shared MPI or patient identifier matching.		CSC-ALL-320 ACN-02.1.3 ACN-02.1.4 and IBM-307-11 IBM-307-13 IBM-307-14	Establish valid identity for consumer by trusted parties, including health plans and plan sponsors; PHRs (via unique "tokens" or similar mechanisms that express consumer's identity and willingness to exchange data)	WebMD				
	2	Return unambiguous patient identities for all query results.			CSC-ALL-770 NGIT-008 IBM-307-08						
	3	Contain/maintain an index of unique patients participating in the NHIN.	Maintain latest available patient identifying information		ACN-02.1 NGIT-007 and CSC-ALL-180	Use blinded, secure RLS, such as through bi-gramming and other techniques to achieve approximate matching and one way hashing	CareEvolution				
	4	Uniquely identify a person [through probabilistic matching on] by various identifiers, such as: - Last Name - Middle Name - First Name - Date of Birth - Gender	Uniquely identify a person by various identifiers, such as: - Last Name - Middle Name - First Name - Date of Birth - Gender		ACN-02.1.1 CSC-ALL-300 and IBM-209-17	Use an agreed-upon list of unique data elements and data identifiers. Use a patient matching scheme were the Edge MPI becomes a Person Locator Service by extending the correlating process to include the Edge identity as the context for the Person ID. Use a balanced matching algorithm (required to be a HITSP standard) so that correlation results will be identical, regardless of the sequence of matching initiation.	FHA VHA				
	5	Receive, validate, and update unique patient information from participating edge systems	Send demographic information to record locator to identify patient for query.		ACN-02.1.2 IBM-307-08 ACN-02.1.2.2 ACN-02.1.2.6 and IBM-307-07						
	6	Return patient identifiers previously uploaded by data sources for a uniquely identified patient			CSC-ALL-770 CSC-ALL-280 IBM-307-09 NGIT-009 NGIT-008 and IBM-307-13						
	7	Maintain a unique organizational identifier for each participating edge system, creating, updating, and inactivating identifiers [for non-HIPAA covered entities].			ACN-05.2 ACN-05.2.1.1 ACN-05.2.1.2 ACN-05.2.1.3						
	8			**Record Locator Service** should match patient to respective sources of data when populating the PHR from the NHIN	IBM-205-05 IBM-207-05						

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	9			**CDO-CDO NHIN Interface** should determine when multiple and or independently submitted data refer to the same case (patient) or event to minimize double counting for biosurveillance.	IBM-103-13						
	10			**Consumer System-PHR** should maintain an XDS repository following pre-population of PHR	IBM-205-19 IBM-207-19						
	11		Establish patient-provider relationships.		ACN-04.10	Link parent/child records and family records. Link to vital statistics records.	FHA				
	12			**CDO** should embed randomized data linker to allow authorized re-identification for Public Health	CSC-BIO-530						
Record Location	1	Contain one Record Locator Service (RLS) for NHIN searches			IBM-205-06 IBM-209-13 IBM-207-06	Support multiple instances of an RLS, each of which could support different data domains (e.g., clinical, lab, claims, etc.). Combine results of individual RLS' to respond to queries	FHA				
	2	Notify/return pointers to requesting edge systems that identified edge systems contain or do not contain the requested data			IBM-209-33 ACN-02.3.10 ACN-02.3.1 IBM-209-15 CSC-ALL-270						
	3	Support HITSP standard feeds as incoming queries to record locator service			IBM-205-08						
	4	Receive notification from remote marketplace for data location request message			IBM-209-26						
	5	Receive data locations from remote marketplaces			IBM-209-27						
	6	Query data sources for requested data and return data to requestor			NGIT-010						
DATA TRANSACTION											
Pull	1	Receive notification of data to be sent			IBM-102-02						
	2	Accept and respond to authenticated and authorized queries for data for a patient.	Receive requested data		CSC-ALL-750 and IBM-311-02	Leverage full data model and data dictionary (consistent metadata) as a basis for any kind of data retrieval Leverage BRIDG meta-model as a standard means of exchanging relevant clinical trials-related data. Provide for semantic interoperability through use of caDSR and EVS	FHA caBIG™				

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	3	Accept lists of other SNOs to contact as part of queries, and query these other SNOs in addition to querying repositories within its SNO.	Use the NHIN Interface to query outside the SNO for health data for a patient.		CSC-ALL-780 and CSC-ALL-880						
	4	Identify the unique patient in request and locate system(s) containing the data requested	Receive location(s) where data are stored; browse and select relevant data location information from which to request data		CSC-ALL-40 CSC-ALL-780 ACN-02.3 IBM-307-21 IBM-307-25 IBM-307-29 and IBM-307-50						
	5	Transmit request for a location to send data to requesting system	Transmit request to view data directly from a providing system		IBM-209-12 ACN-02.2 ACN-02.3.3 IBM-307-21 IBM-307-45 and IBM-209-08						
	6	Aggregate appropriate records from NHIN query	Aggregate appropriate records from NHIN query		IBM-205-14 CSC-ALL-840 CSC-ALL-40 IBM-209-33 and IBM-207-14						
	7		Accept update messages from other edge systems.		ACN-02.3.15						
	8		Return clinical data in response to authorized queries.		CSC-ALL-660						
Push	1	Deliver messages (along with any apprpriate metadata) to destination organization(s)/requesting edge system(s) or notify sender they are undeliverable			CSC-ALL-430 IBM-102-10	Acknowledge receipt and retransmit if necessary. Information metadata should include standards such as UML and XSD.	FHA See also Data Quality/Integrity VHA				
	2			**Data Analysis and Secondary Use Systems-Public Health** receive anonymized health data from participating edge systems and transmit to Public Health systems	ACN-06-1.1.2 ACN-06.1.12 ACN-06.1.13 IBM-102-11 IBM-103-11 ACN-05.1.1.1 NGIT-159 CSC-BIO-560						
	3			**Data Analysis and Secondary Use Systems-Public Health** and **Payer Systems** communicate data (e.g., updates and instructions, potentially including list of essential data to be transmitted, trigger, timeframe, and data to be sent) directly to caregivers or others to monitor a previously detected event	IBM-106-03 IBM-104-02 NGIT-076 CSC-BIO-580 CSC-BIO-550 IBM-106-01 NGIT-159						

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	4			**Data Analysis and Secondary Use Systems-Pupblic Health** communicate (via multiple media) approved Public Health updates and alerts to public media, neighboring communities, and biosurveillance responders	IBM-106-05 IBM-106-06 IBM-107-01 NGIT-160 IBM-107-11						
	5			**Care Delivery Organization(s)** receive patient specific biosurveillance event response information message from Public Health to support event response	IBM-107-13						
	6		Receive new event location information, availability, and/or data from a repository or other edge system		IBM-306-01 IBM-306-02 IBM-209-10 ACN-06.1.1 IBM-209-10 IBM-311-01 NGIT-135 IBM-304-01 CSC-EHR-370 CSC-ALL-380 NGIT-121 NGIT-126 NGIT-127	Provide for real-time, bi-directional secure messaging between edge systems to enable quick and efficient communications among stakeholders	FHA (See also Data Content/Data Usage				
	7		Send new patient location, event location, availability information, and data, according to sensitivity restrictions, patient consent, and provider preferences		IBM-505-08 IBM-305-09 IBM-303-04 CSC-ALL-190 IBM-207-31 IBM-304-11 IBM-304-18 IBM-304-19 IBM-304-20 CSC-EHR-400 CSC-ALL-380 CSC-EHR-422 NGIT-142 IBM-316-01						
	8			**Consumer System-PHR** should provide capability for consumer to transfer data from one PHR to another PHR	IBM-207-39 IBM-211-02 NGIT-099 and CSC-CE-430						
Audit and Logging	1	Log all interactions/transactions in accordance with HITSP standards for content and format of audit logging.	Log all interactions/transactions in accordance with HITSP standards for content and format of audit logging.		CSC-ALL-80 IBM-102-14 ACN-02.2.1 IBM-207-37 IBM-211-09 IBM-319-37 ACN-07.16 IBM-305-13 IBM-307-28 IBM-319-29 NGIT-080 IBM-103-14 and CSC-CE-640 CSC-SEC-90 ACN-07.17	The only audit and logging functions performed by the network should be those associated with NHIN connection and disconnection of an Edge system, whether intentional or unintentionl, and the transactions to manage any information in an Edge Registry.	VHA				

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	2	Retain logs for period of time determined by law, accrediting agencies, marketplace, and entities	Retain logs for period of time determined by law, accrediting agencies, marketplace, and entities		NGIT-011 ACN-07.16.9 IBM-319-45 IBM-319-33 and IBM-319-05	Destruction of logs	FHA				
	3	Consolidate logs from NHIN systems			ACN-07.16.12	Cross-organizational logging	FHA				
	4	Maintain log of updates to patient information location			NGIT-146						
	5	Protect audit data from unauthorized access/modification	Protect audit data from unauthorized access/modification		CSC-SEC-120 IBM319-42 IBM-319-48 and CSC-SEC-110						
	6	Notify and log notifications and receive and log confirmations that requests for patient data are received and being processed (including timeout notifications)	Acknowledge receipt of data		ACN-02.2.3 ACN-02.2.4 ACN-02.3.11 ACN-02.3.2 ACN-02.3.4 ACN-02.3.5 ACN-02.3.6 ACN-02.3.8 and NGIT-137						
	7	Generate administrative and system monitoring reports			ACN-02.4 ACN-02.4.1	Address throughput of system given	FHA				
	8	Generate alerts/notifications for system activity outside the normal range of monitoring levels/thresholds			ACN-02.4.3 ACN-07.16.14 ACN-07.16.15						
	9	Log all relevant infrastructure level authentication attempts	Log all relevant system level authentication attempts		ACN-07.16.1 and ACN-07.16.2						
	10		Log all relevant system level access attemps		ACN-07.16.5						
	11	Log all configuration changes	Log all configuration changes		ACN-07.16.10 and ACN-07.17.11						
	12	Log all modifications to consent status (for data sharing)	Log all modifications to consent status (for data sharing)		ACN-07.16.11 and ACN-07.17.12						
	13		Log all modifications to [*legitimate need*] access events		ACN-07.17.7						
	14	Generate evidence to support incident management (investigations) and response processes (corrective action)	Generate evidence to support incident management (investigations) and response processes (corrective action)		ACN-07.16.15 ACN-07.16.7 ACN-07.16.8 and ACN-07.17.8 ACN-07.17.9						
	15	Conduct regular risk assessments	Conduct regular risk assesments		ACN-07.24 and ACN-07.25						
	16			**CDO-EMR** should create an exception list when lab results can not be unequivocally be matched to an order/patient/etc.	NGIT-113						

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	17		Provide capability for easy retrieval of audit trail and present in a manner understandable to patient or proxy		IBM-320-01 IBM-320-02 IBM-320-03 IBM-320-04						
	18			Repositories should log interaction with clinician or data stager related to processing requests for historical lab results	IBM-309-14						
						Data version should enable exact recreation of a record as it existed at a particular point in time for	Availity				
Data Access and Update	1	Configure environment to monitor, process and send matching patient care and any available resource utilization data			IBM-102-03	Enable workflow and quality (cooperative work distrtibuted across entities, e.g., ordering and results of lab tests or prescriptions) Enable messaging from patient to care provider's clinical workflow solution	EHRVA WebMD				
	2	Accept and maintain updates to patient identifying information			CSC-ALL-200						
	3		Accept request to locate and retrieve data		CSC-CE-540	Provide for dynamic information access (direct request/response interactions to specific target systems, e.g., query of immunization	EHRVA				
	4			Consumer System-PHR should allow consumer to request that PHR be prepopulated with applicable data at applicable times	IBM-205-01 IBM-207-01	Make available consumer health risk assessment and current health care conditions in support of a consumer's choice of health benefits, optimal contribution to their Health Savings Account, and in support of treatment and provider decisions.	WebMD				
	5			Consumer System-PHR should allow consumer to select whether their PHR data will be available	IBM-208-01						
	6			Consumer System-PHR should adhere to laws governing how minors' records can be accessed by a third party across	IBM-212-36						
	7		Notify requesting user if data exists in an identified edge system but has not been received in a timely period.		ACN-02.3.7						

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	8			**Health information intermediaries** should allow payers, providers, patients, and other stakeholders the ability to share information to support medical research, drug safety and post-marketing drug surveillance, clinical trial recruitment and execution, public health surveillance, care management and other quality initiatives, and patient care.	ACN-01.10 ACN-01.11 ACN-01.12 ACN-01.14 ACN.01.15 ACN-01.9	Enable consumers to gain insight into their health history in order to provide a better context for treatment, benefit, and provider decisions	WebMD (could be expanded to provide benefits information to providers as they make treatment decisions - is this Pull?)				
	9		Provide a "break-the-glass" function for authorized users to bypass normal security barriers during an emergency.		CSC-SEC-140	Support consistent methodology for granting access (e.g., role or system interface). Change "break-the-glass" to "structured, approved emergency access process"	FHA				
	10		Provide a web interface if a system is not available to perform NHIN queries.		CSC-ALL-990 CSC-EHR-510	Allow for establishment of systems based on Services-Oriented Architectures (SOA)	caBIG™				
	11		Accept inserts, updates and amendments to persisted data.		CSC-ALL-710						
Data Routing	1	Accept and route all authorized messages to designated edge systems.			CSC-ALL-410	Support routing and alerts based on roles and organizational responsibilities	FHA				
	2		Send data feeds to NHIN Interface		IBM-208-04						
	3			**CDO-CDO NHIN Interface** should apply business rules for routing biosurveillance data	IBM-103-09 IBM-107-06 IBM-107-05						
	4	Send messages according to authorized recipient's specified mode (e.g., secure email, web application, EHR/responder system)			IBM-107-07	Support for auditable data exchanges for messages requiring confirmed delivery or acknowledgement of receipt.	FHA (See also Data Quality/Integrity)				
	5		Specify method and destinations of message delivery		CSC-ALL-420 CSC-ALL-440						
Data Transaction Verification*		*This category is not on original ONC document, and seems to be addressed by some contractors in Data Content: Data Quality/Data Integrity*									
???-Configuration		Support the specification of level of participation of an organization (entity) with the NHIN			NGIT-002						
						Maintain registry of Edge Systems, including types of records and which the Edge may have	VHA				

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DATA TRANSFORMA-TION											
Data Filtering	1	Accept and apply filter rules	Support various filters for queried or returned data		NGIT-062 NGIT-063 NGIT-064 and	Capability to enable process that governs filtering capabilities	FHA				
	2		Aggregate data for transmission as determined by HITSP implementation guide		NGIT-065 NGIT-059						
	3	Allow clinician to subscribe and un-subscribe to specified or all available future clinical events data for specified patient			IBM-318-01 IBM-318-02	Support hierarchical data structure and clarified metadata definitions to enable filtering	FHA				
	4	Store provider preferences to automatically receive information			IBM-313-01 IBM-313-02 IBM-313-03 IBM-313-04						
	5		Provide clinician ability to query for results based on one or multiple criteria for a specified patient		IBM-307-32 IBM-307-30	Support medical supplies inventory and resource management (e.g., flu vaccines, bed count to support surge capacity and special needs)	FHA (Similar to IBM-106-07)				
Data Mapping/Translation	1	Transform data using HITSP standards to support meaningful communication across the NHIN			IBM-102-08 NGIT-100	Enable patients and clinicians to report adverse medical events and/or errors	FHA				
	2		Receive data to parse into application system		IBM-209-34 IBM-209-39	Communicate with the NHIN using terminology standards used to support clinical research and drug approval/monitoring (such as CDISC and MedDRA)	Clinical research community (ACN-02.5.2.11)				
	3		Communicate with the NHIN using HITSP standard content and message formats.		ACN-02.5 through ACN-02.5.2.9						
	4			**Terminology servers** should contain mapping of local terminologies to HITSP standard terminologies	ACN-04.11	Data mapping/translation between versions of a standard and between standards	SureScripts				
	5			**Terminology servers** should present data to users in desired terminology	ACN-04.12	Evolutionary maturity among code sets	Jeff Blair				
	6			**Consumer System-PHR** may offer 'translation' services for PHRs to provide clinical data in easy to read and understandable	IBM-212-14	Capability to support Section 508 compliance (e.g., handicapped access, multiple language	FHA (See Data Rendering)				
Data Rendering	1	Support display, entry, and retrieval of data transmission in multiple languages	Support display, entry, and retrieval of data content in multiple languages		IBM-317-06 IBM-317-07 IBM-317-08						
	2	External user interfaces provide data transmission in a manner accessible for handicapped	Edge system provide accessibility for handicapped interaction with data content		IBM-317-10 and IBM-317-05	Enable data collection and presentation capabilities mandated by federal standards	FHA				
	3		Display data in an easy to understand manner determined by the receiving entity or		IBM-306-11 IBM-306-12						
	4		Give providers and patients ability to view applicable information		ACN-01.1 through ACN01.8						
DATA CONTENT											

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Data Content	1	Transmit well-formed messages that conform to a HITSP interoperability specification			CSC-ALL-50						
	2	Require HITSP standard message formats and implementation guidelines for queries and responses	Transmit well formed messsages according to a HITSP specified implementation instruction when communicating with the NHIN Interface.		CSC-ALL-800 and CSC-ALL-60						
	3	Adhere to approved content standards as provided by HITSP when sending data	Adhere to approved content standards as provided by HITSP when sending data		IBM-305-10 and IBM-308-12 IBM-316-02						
	4	Send notification of new [lab result] event message that may include: patient identifying information, storing repository identifying information, storing repository marketplace,information necessary for indexing and restrictions for use, and other content.	Send data that includes [results data] as well as information necessary for indexing and restrictions for use.		IBM-305-11 IBM-303-07						
	5			**NHIN Administration-Data Stager (IBM)** may support data staging on behalf of clinician	IBM-308-11 IBM-310-07 IBM-310-08						
Data Quality/Integrity	1	Validate authenticity of (solicited or unsolicited) event location message (query and response) and transmit error message if not valid	Validate authenticity of (solicited or unsolicited) event location message (query and response) and transmit error message if not valid		IBM-316-12						
	2	Process acknowledgment of transmission or receipt of data content message and retransmit/receive if necessary	Process acknowledgment of transmission or receipt of data content message and retransmit/receive if necessary		IBM-102-15						
	3	Verify integrity and completeness of data received and transmit error message if necessary	Verify integrity and completeness of data received and transmit error message if necessary		IBM-305-03						
	4		Enforce non-repudiation of message or query origin		CSC-SEC-150						
Data Source	1		Identify source of externally-provided data		IBM-310-07 NGIT-104	Require common data dictionary and metadata	FHA				
	2			**NHIN Administration-Utilization Reporting System (IBM)** should provide unit-level census and facility utilization data for emergency planning	IBM-101-11 IBM-101-12 IBM-101-13 IBM-106-10	Provide unit-level census data as specified in the Biosurveillance use case. Unit-level census data includes: unit name, number of patients by unit, number of beds available by unit, and emergency room triage marginal capacity as a percentage and head-count	FHA				
	3			**CDO-LIS** should provide additional/revised patient data (demographics, clinical data, lab and radiology test orders and results) to monitor a previously detected event for biosurveillance	IBM-106-09 and related fcns						

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Data Usage	1	Enable edge systems to acquire data to monitor a previously detected event, generate alerts/notifications to publi health users, populate an Electronic Health Record, populate a Personal Health Record, etc.			ACN-03.3.1 IBM-106-4 ACN-03.1.1 ACN-06.1.8						
	2					Enable access to, automated collection of, and public health surveillance for current medical product and food safety information.	FDA				
	3					Enable patients and their proxies to find and enroll in appropriate clinical trials. Enable providers and investigators to find and enroll their patients in clincial trials.	Clinical research community (ACN-03.2.2; ACN03.3.9))				
	4					Capture clinical information as part of the normal health care interaction that can be used for clinical trials in a 21CFR Part 11 compliant manner.	Clinical research community (ACN-03.3.11)				
	5					Generate reports and derive insights from healthcare data	Clinical research community (ACN-06)				
	6					Provide for administrative services of billing and reporting	SureScripts				
	7			**Data Analysis and Secondary Use Systems** should ggregate anonymized health data from participating edge systems for various public health purposes, clinical research, and drug outcome comparator studies	ACN-06.1.4 ACN-06.1 ACN-06.1.5 ACN-06.1.6 ACN-06.3						
DATA STORAGE											
Persistent						Automatically purge/remove daa as determined by policy/business rules	FHA				
						Persistent information management (storing/sharing aggregated records from uncoordinated sources across time, e.g., medical summaries)	EHRVA				
Transient	1	Hold and aggregate data or error messages received from the data repository as determined by the community.			IBM-310-05	Create ad hoc and specifically requested summary or accumulated data as a result of user-defined queries	FHA				

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						Ability to specify (limit) amount of data that can be stored as transient data on the system in terms of volume and size of expected requests	FHA				
NON-FUNCTIONAL											
Accuracy											
Business Rules											
Performance											
Robustness											
Scalability											

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1028	NGIT-002	NHIN Administration-Organization Registration	1 Shall	Support the specification of level of participation of an organization (entity) with the NHIN	???-Configuration (NGIT)	Core	Infrastructure		N	Appears to be needed in order to determine connectivity capability of any entity	
1029	NGIT-003	NHIN Administration-System Registration	1 Shall	Support physical communication configuration for an organization (entity)	???-Configuration (NGIT)	Core	Infrastructure			Out of scope	
954	IBM-316-10	CDO-EMR	May	Store lab supplied unique lab order identification information	???-Unknown (IBM)	Edge	EHR - Lab		X		
334	CSC-ALL-50	CDO-CDO NHIN Interface	1 Shall	Transmit well formed messages according to a HITSP specified implementation instruction.	Data Content	Core	Infrastructure	IBM-303-05 IBM-303-06	N	Combined with related functions	FHA
351	CSC-ALL-800	CDO-CDO NHIN Interface	1 Shall	Require HITSP standard message formats and implementation guidelines for queries and responses.	Data Content	Core	Infrastructure	CSC-ALL-50 IBM-303-05 IBM-303-06	N	Seems to assume a specific architecture	
803	IBM-305-10	RLS	1 Shall	Adhere to approved content standards as provided by HITSP when sending notification of new lab results to clinicians.	Data Content	Core	EHR - Lab		N	Appears to be an enhanced application function with respect to Data Access and Update	
1120	NGIT-145	RLS	1 Shall	Maintain information on the location of patient data available through network services.	Data Content	Core	Infrastructure			Seems to be a Record Location function	
804	IBM-305-11	RLS	2 Should	Send notification of new lab result event message that may include: patient identifying information, storing repository identifying information, storing repository marketplace and other content	Data Content	Core	EHR - Lab		N	Appears to be an enhanced application function	
336	CSC-ALL-60	All Edge Systems (CSC)	1 Shall	Transmit well formed messages according to a HITSP specified implementation instruction, when communicating with the NHIN Interface.	Data Content	Edge	Infrastructure	IBM-303-05 CSC-ALL-50 IBM-303-06	E	Combined	
888	IBM-308-12	CDO-EMR	1 Shall	Adhere to approved content standards as provided by HITSP when sending request for lab result data to repository	Data Content	Edge	EHR - Lab	CSC-ALL-50 IBM-303-05 IBM-303-06	E	Combined	
946	IBM-316-02	CDO-EMR	1 Shall	Adhere to approved content standards as provided by HITSP when sending lab orders to lab	Data Content	Edge	EHR - Lab	CSC-ALL-50 IBM-303-05 IBM-303-06	E	Combined	
759	IBM-303-01	CDO-LIS	1 Shall	Create preliminary, final and updated results for lab test.	Data Content	Edge	EHR - Lab	CSC-EHR-360 NGIT-119 NGIT-141	X	Appears to be an enhanced application function	
763	IBM-303-05	CDO-LIS	1 Shall	Adhere to approved content standards as provided by HITSP when sending lab results data to the repository.	Data Content	Edge	EHR - Lab	CSC-ALL-50 IBM-303-06	E	Combined	

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764	IBM-303-06	CDO-LIS	1 Shall	Conform to approved, vocabulary, structure, privacy, security and messaging standards as provided by HITSP when transmitting patient data.	Data Content	Edge	EHR - Lab	CSC-ALL-50 IBM-303-05	N	This combines all possible HITSP standards and could replace other more specific statements	FHA
765	IBM-303-07	CDO-LIS	1 Shall	Send data from the lab to the storing repository that includes results data as well as information necessary for indexing and restrictions for use.	Data Content	Edge	EHR - Lab	CSC-ALL-50 IBM-303-05 IBM-303-06	E	Unless assumed by HITSP standards, raise to generic function of: "Transmit data as well as information necessary for indexing and restrictions for use"	
889	IBM-308-13	External User interfaces	1 Shall	Adhere to approved content standards as provided by HITSP when sending request for lab result data to repository	Data Content	Edge	EHR - Lab	CSC-ALL-50 IBM-303-05 IBM-303-06	E	Combined	
887	IBM-308-11	NHIN Administration-Data Stager (IBM)	1 Shall	Adhere to approved content standards as provided by HITSP when sending request for lab result data to repository	Data Content	Edge	EHR - Lab	CSC-ALL-50 IBM-303-05 IBM-303-06	E	Combined	
913	IBM-310-07	NHIN Administration-Data Stager (IBM)	1 Shall	Sends the identity of the data source to the requesting clinician if the data stager receives the data from the data source on behalf of the clinician	Data Content	Edge	EHR - Lab	NGIT-104	E		
914	IBM-310-08	NHIN Administration-Data Stager (IBM)	1 Shall	Transmit messages for failed searches to the requesting clinician if the data stager receives the data from the data source on behalf of the clinician	Data Content	Edge	EHR - Lab		E	Could be combined with more general function of NHIN notification of search results	
780	IBM-304-14	Repositories	1 Shall	Adhere to approved content standards as provided by HITSP when sending information about lab result location to record locator	Data Content	Edge	EHR - Lab	IBM-303-05 IBM-303-06 CSC-ALL-60	E	Combined	
904	IBM-309-12	Repositories	1 Shall	Conform to approved vocabulary, structure and messaging standards as provided by HITSP when transmitting lab result event data to EHRs	Data Content	Edge	EHR - Lab	CSC-ALL-50 IBM-303-05 IBM-303-06	E	Combined	
890	IBM-308-14	CDO-EMR	2 Should	Include name of the requesting clinician; the HIPAA designated National Provider ID and name of the clinician's affiliated organization, and identifying information for the requesting marketplace as part of the data request transmission when sending request for lab result data to repository.	Data Content	Edge	EHR - Lab	CSC-ALL-50 IBM-303-05 IBM-303-06 IMB-308-15	E	Seems to be specificity that should be included in HITSP content and message format standards.	

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947	IBM-316-03	CDO-EMR	2 Should	Include name of the requesting clinician; the HIPAA designated National Provider ID and name of the clinician's affiliated organization; and identifying information for the requesting marketplace as part of the data request transmission when sending lab orders to lab.	Data Content	Edge	EHR - Lab	CSC-ALL-50 IBM-303-05 IBM-303-06 IBM-308-15	E	Seems to be specificity that should be included in HITSP content and message format standards.	
1094	NGIT-115	CDO-EMR	2 Should	Identify providers associated in the care of the patient, and their relationship to patient and/or procedures	Data Content	Edge	EHR - Lab	CSC-ALL-50 IBM-303-05 IBM-303-06 IBM-308-15	X	Seems to be specificity that should be included in HITSP content and message format standards.	
754	IBM-212-38	Consumer System-PHR	2 Should	Retain data according to SLAs	Data Content	Edge	CE - Consumer		X	Seems to fit under Persistent Data Storage	
569	IBM-107-03	Data Analysis and Secondary Use Systems-Public Health	2 Should	Allow sender to specify type and urgency of biosurveillance 'broadcast" messages to support event response	Data Content	Edge	Biosurveillance		E		
891	IBM-308-15	External User interfaces	2 Should	Include name of the requesting clinician; the HIPAA designated National Provider ID and name of the clinician's affiliated organization, and identifying information for the requesting marketplace as part of the data request transmission when sending request for lab result data to repository.	Data Content	Edge	EHR - Lab	CSC-ALL-50 IBM-303-05 IBM-303-06	E	Duplicative	
892	IBM-308-16	NHIN Administration-Data Stager (IBM)	2 Should	Include name of the requesting clinician; the HIPAA designated National Provider ID and name of the clinician's affiliated organization, and identifying information for the requesting marketplace as part of the data request transmission when sending request for lab result data to repository.	Data Content	Edge	EHR - Lab	CSC-ALL-50 IBM-303-06 IBM-308-15	E	Duplicative	
912	IBM-310-06	NHIN Administration-Data Stager (IBM)	2 Should	Inform requesting clinician that the transmission is incomplete if the stager sends data before all queried data sources respond	Data Content	Edge	EHR - Lab		E	Seems to suggest a specific architecture	
435	CSC-EHR-380	CDO	May	Flag availability, and transmit lab results updates and corrections to the appropriate repositor(ies). The repository might be part of the same system, for example an EMR system, that received the results.	Data Content	Edge	EHR - Lab	CSC-EHR-360 NGIT-119 NGIT-141	X	Appears to be an enhanced application function	
948	IBM-316-04	CDO-EMR	May	Indicate for lab to send result event messages to ordering clinician's EMR and include in lab order message to lab	Data Content	Edge	EHR - Lab	CSC-EHR-360 NGIT-119 NGIT-141	X	Appears to be an enhanced application function	
949	IBM-316-05	CDO-EMR	May	Indicate to send result event availability notifications to ordering clinician's EMR and include in lab order message sent to lab.	Data Content	Edge	EHR - Lab	CSC-EHR-360 NGIT-119 NGIT-141	X	Appears to be an enhanced application function	

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950	IBM-316-06	CDO-EMR	May	Indicate for lab to send result availability notification to other clinicians and include in lab order message sent to lab	Data Content	Edge	EHR - Lab	CSC-EHR-360 NGIT-119 NGIT-141	X	Appears to be an enhanced application function	
428	CSC-EHR-300	CDO-LIS	May	Report results including but not limited to: clinical chemistry, hematology, serology, and microbiology, radiology, cardiology, and neurology.	Data Content	Edge	EHR - Lab		X		
436	CSC-EHR-382	CDO-LIS	May	Flag availability, and transmit lab results updates and corrections to the appropriate Repositor(ies). The repository might be part of the LIS	Data Content	Edge	EHR - Lab	CSC-EHR-360 NGIT-119 NGIT-141	X	Appears to be an enhanced application function	
960	IBM-316-16	CDO-LIS	May	Send unique identifier to facilitate electronic retrieval of lab results to clinician	Data Content	Edge	EHR - Lab		X	Seems to assume a specific RLS architecture	
717	IBM-212-01	Consumer System-PHR	May	Be able to retrieve clinical notes	Data Content	Edge	CE - Consumer		X		
718	IBM-212-02	Consumer System-PHR	May	Be able to retrieve lab results	Data Content	Edge	CE - Consumer		X		
720	IBM-212-04	Consumer System-PHR	May	Capture and maintain data on clinical encounters and outpatient and inpatient procedures, including date, facility, attending Health Care Provider, diagnoses procedures, and type of encounter	Data Content	Edge	CE - Consumer		X		
721	IBM-212-05	Consumer System-PHR	May	Capture and maintain the presence and/or absence of a history of major diseases among the PHR Account Holder's close blood relatives	Data Content	Edge	CE - Consumer		X		
722	IBM-212-06	Consumer System-PHR	May	Capture and maintain the PHR Account Holder's health problem list. Provide ability to manage the problem list over time	Data Content	Edge	CE - Consumer		X		
723	IBM-212-07	Consumer System-PHR	May	Capture and maintain the PHR Account Holder's list of known allergens and adverse reactions with all pertinent information	Data Content	Edge	CE - Consumer		X		
724	IBM-212-08	Consumer System-PHR	May	Capture and maintain the PHR Account Holder's immunizations in a way that can be easily viewed over time	Data Content	Edge	CE - Consumer		X		
729	IBM-212-13	Consumer System-PHR	May	Capture the PHR Account Holder's advanced directive as well as the date and circumstances under which the directives are provided, and/or the location and/or custodian's contact information for any legally attested records of advanced directives as appropriate	Data Content	Edge	CE - Consumer		X		
734	IBM-212-18	Consumer System-PHR	May	Display health data — both patient sourced and professionally sourced — with consumer-friendly terminology	Data Content	Edge	CE - Consumer		X	Seems to be Data Mapping/Translation function	

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749	IBM-212-33	Consumer System-PHR	May	Provide access to the PHR Account Holder's care plan(s)	Data Content	Edge	CE - Consumer		X		
750	IBM-212-34	Consumer System-PHR	May	Provide access to financial data from clinical and pharmacy sources	Data Content	Edge	CE - Consumer		X		
568	IBM-107-02	Data Analysis and Secondary Use Systems-Public Health	May	Provide and support template driven composition of biosurveillance event response 'broadcast" messages to support event response	Data Content	Edge	Biosurveillance		X		
527	IBM-102-15	CDO-CDO NHIN Interface	1 Shall	Process acknowledgment of accurate receipt from PH Agency and retransmit if necessary	Data Content-Data Quality/Data Integrity	Core	Bio		N	Raised to generic level and combined with related functions	
542	IBM-103-15	CDO-CDO NHIN Interface	1 Shall	Process acknowledgment of accurate receipt from PH Agency and retransmit if necessary	Data Content-Data Quality/Data Integrity	Core	Bio	IBM-102-15		Duplicative	
155	ACN-07	NHIN Overarching (ACN)	1 Shall	Provide appropriate security and privacy processes to protect healthcare data.	Data Content-Data Quality/Data Integrity	Core	Infrastructure		N	Vague; is more specific elsewhere	
796	IBM-305-03	RLS	1 Shall	Verify integrity and completeness of content of new lab result event location message sent from lab data repository	Data Content-Data Quality/Data Integrity	Core	EHR - Lab		N	Raised to generic level and combined with related functions	
797	IBM-305-04	RLS	1 Shall	Send error message to repository if authenticity not validated for repository sending new lab result event location message	Data Content-Data Quality/Data Integrity	Core	EHR - Lab	IBM-305-03	N	Combined	
798	IBM-305-05	RLS	1 Shall	Send error message to repository if content not validated for new lab result event location message	Data Content-Data Quality/Data Integrity	Core	EHR - Lab	IBM-305-03	N	Combined	
799	IBM-305-06	RLS	1 Shall	Send acknowledgement message to repository for successful transmission of new lab result event location notification message	Data Content-Data Quality/Data Integrity	Core	EHR - Lab	IBM-305-03	N	Combined	
807	IBM-305-14	RLS	1 Shall	Receive acknowledgement of successful transmission of new lab results availability notification message from clinician EHR or web application	Data Content-Data Quality/Data Integrity	Core	EHR - Lab	IBM-305-03	N	Combined	
842	IBM-307-22	RLS	1 Shall	Authenticate to remote marketplace record locator	Data Content-Data Quality/Data Integrity	Core	EHR - Lab		N	Seems to assume a specific RLS architecture	
843	IBM-307-23	RLS	1 Shall	Receive error message from remote marketplace if requesting record locator not authenticated or if content of data location request message is not verified	Data Content-Data Quality/Data Integrity	Core	EHR - Lab		N		
844	IBM-307-24	RLS	1 Shall	Receive acknowledgement from remote marketplace for data location request message	Data Content-Data Quality/Data Integrity	Core	EHR - Lab	IBM-307-23	N	Combined	

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846	IBM-307-26	RLS	1 Shall	Send error message to remote marketplace if not authenticated or if consent of data locations message is not verified	Data Content-Data Quality/Data Integrity	Core	EHR - Lab	IBM-307-23	N	Combined	FHA
847	IBM-307-27	RLS	1 Shall	Send acknowledgement to remote marketplace for successful receipt of data location message	Data Content-Data Quality/Data Integrity	Core	EHR - Lab	IBM-307-23	N	Combined	
808	IBM-305-15	RLS	2 Should	Receive error messages from clinician EHR or web application if authenticity of record locator or content of new lab result event availability notification message not validated	Data Content-Data Quality/Data Integrity	Core	EHR - Lab	IBM-307-23	N	Combined	
482	CSC-SEC-150	All Edge Systems (CSC)	1 Shall	Enforce non-repudiation of message or query origin	Data Content-Data Quality/Data Integrity	Edge	Infrastructure		E	Seems to fit under Authentication	FHA
494	CSC-SEC-30	All Edge Systems (CSC)	1 Shall	Send integrity verification information along with data sent over the network	Data Content-Data Quality/Data Integrity	Edge	Infrastructure		E	Combined with related functions	
495	CSC-SEC-40	All Edge Systems (CSC)	1 Shall	Use integrity verification information to validate the integrity of data received across the network	Data Content-Data Quality/Data Integrity	Edge	Infrastructure	CSC-SEC-30	E	Combined	FHA
813	IBM-306-05	CDO-EMR	1 Shall	Validate integrity and completeness of new lab result event availability notification message	Data Content-Data Quality/Data Integrity	Edge	EHR - Lab	NGIT-122 CSC-SEC-30	E	Combined	
815	IBM-306-07	CDO-EMR	1 Shall	Send acknowledgement message to record locator for successful transmission of new lab result event availability notification message	Data Content-Data Quality/Data Integrity	Edge	EHR - Lab	IBM-102-15	E	Combined	
817	IBM-306-09	CDO-EMR	1 Shall	Send error messages to locator service if authenticity content integrity or completeness not validated for transmission of notifications	Data Content-Data Quality/Data Integrity	Edge	EHR - Lab	IBM-102-15	E	Combined	
952	IBM-316-08	CDO-EMR	1 Shall	Receive acknowledgement of order receipt and unique order identifier or error message from lab	Data Content-Data Quality/Data Integrity	Edge	EHR - Lab	IBM-102-15	E	Combined	
956	IBM-316-12	CDO-LIS	1 Shall	Authenticate entity sending lab order message	Data Content-Data Quality/Data Integrity	Edge	EHR - Lab	IBM-305-03	N/E	Seems to be needed at both levels	
957	IBM-316-13	CDO-LIS	1 Shall	Validate integrity and completeness of lab order message	Data Content-Data Quality/Data Integrity	Edge	EHR - Lab	CSC-SEC-30	E	Combined	
958	IBM-316-14	CDO-LIS	1 Shall	Correct lab order error message as necessary	Data Content-Data Quality/Data Integrity	Edge	EHR - Lab	CSC-SEC-30	X		
959	IBM-316-15	CDO-LIS	1 Shall	Send acknowledgement message of receipt of complete lab order to sending entity	Data Content-Data Quality/Data Integrity	Edge	EHR - Lab	IBM-102-15	E	Combined	
548	IBM-104-06	Data Analysis and Secondary Use Systems-Public Health	1 Shall	Send acknowledgment to senders that integrity, authenticity and completeness of results are acceptable.	Data Content-Data Quality/Data Integrity	Edge	Biosurveillance	NGIT-079	E	Combined	

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814	IBM-306-06	External User interfaces	1 Shall	Validate integrity and completeness of new lab result event availability notification message	Data Content-Data Quality/Data Integrity	Edge	EHR - Lab	CSC-SEC-30	E	Combined	
816	IBM-306-08	External User interfaces	1 Shall	Send acknowledgement message to record locator for successful transmission of new lab result event availability notification message	Data Content-Data Quality/Data Integrity	Edge	EHR - Lab	IBM-102-15	E	Combined	
818	IBM-306-10	External User interfaces	1 Shall	Send error messages to locator service if content integrity or completeness not validated for transmission of notifications	Data Content-Data Quality/Data Integrity	Edge	EHR - Lab	CSC-SEC-30	E	Combined	
926	IBM-312-02	External User interfaces	1 Shall	Verify correct patient identity and correctness of lab results and error correct if necessary	Data Content-Data Quality/Data Integrity	Edge	EHR - Lab		E		
927	IBM-312-03	External User interfaces	1 Shall	Send acknowledge receipt of lab results in web application to data repository or data manager system, depending upon sending entity	Data Content-Data Quality/Data Integrity	Edge	EHR - Lab		E		
6	ACN-01.13	Health Information Intermediaries	1 Shall	Allow the pharmaceutical, medical products, and regulatory agencies to improve the processes for drug and device development, submission, approval, and safety monitoring.	Data Content-Data Quality/Data Integrity	Edge	Infrastructure		E		
1113	NGIT-136	Health Information Intermediaries	1 Shall	Verify integrity of unsolicited result transactions	Data Content-Data Quality/Data Integrity	Edge	EHR - Lab	CSC-SEC-30	E	Combined	FHA
576	IBM-107-10	NHIN Administration-Biosurveillance Responder System (IBM)	1 Shall	Receive biosurveillance event response 'broadcast" messages	Data Content-Data Quality/Data Integrity	Edge	Biosurveillance		E		
908	IBM-310-02	NHIN Administration-Data Stager (IBM)	1 Shall	Acknowledge receipt of lab results from data repository	Data Content-Data Quality/Data Integrity	Edge	EHR - Lab	IBM-102-15	E	Combined	
342	CSC-ALL-680	Repositories	1 Shall	Receive and validate the query request	Data Content-Data Quality/Data Integrity	Edge	Infrastructure	IBM-305-03 IBM-303-23	E	Combined	
770	IBM-304-04	Repositories	1 Shall	Verify integrity and completeness of new lab result events message contents	Data Content-Data Quality/Data Integrity	Edge	EHR - Lab	IBM-305-03 IBM-303-23	E	Combined	
771	IBM-304-05	Repositories	1 Shall	Send error message if lab authenticity is not verified	Data Content-Data Quality/Data Integrity	Edge	EHR - Lab	IBM-305-03 IBM-303-23	E	Combined	
772	IBM-304-06	Repositories	1 Shall	Send error message if content is not verified for new lab result message	Data Content-Data Quality/Data Integrity	Edge	EHR - Lab	IBM-305-03 IBM-303-23	E	Combined	
773	IBM-304-07	Repositories	1 Shall	Send acknowledgement message to sending lab for successful send of new lab result message	Data Content-Data Quality/Data Integrity	Edge	EHR - Lab	IBM-102-15	E	Combined	

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774	IBM-304-08	Repositories	1 Shall	Log receipt of new lab results event message from the performing lab	Data Content-Data Quality/Data Integrity	Edge	EHR - Lab		E		
782	IBM-304-16	Repositories	1 Shall	Receive acknowledgement of successful transmission of new lab result event location message from locator service	Data Content-Data Quality/Data Integrity	Edge	EHR - Lab	IBM-102-15	E	Combined	
783	IBM-304-17	Repositories	1 Shall	Receive error messages form locator service if authenticity of repository or content of new lab result event location message not validated	Data Content-Data Quality/Data Integrity	Edge	EHR - Lab	IBM-305-03 IBM-303-23	E	Combined	
893	IBM-309-01	Repositories	1 Shall	Receive, parse and validate the lab results data query request	Data Content-Data Quality/Data Integrity	Edge	EHR - Lab		E		
894	IBM-309-02	Repositories	1 Shall	Send acknowledgement to clinician or data stager regarding received data query request	Data Content-Data Quality/Data Integrity	Edge	EHR - Lab	IBM-102-15	E	Combined	
483	CSC-SEC-160	All Edge Systems (CSC)	2 Should	Use HITSP-specified security tokens for trusted computer-to-computer authentication, computer authorization, and encryption.	Data Content-Data Quality/Data Integrity	Edge	Infrastructure		E	Seems to fit under Authentication	
437	CSC-EHR-390	Repositories	2 Should	Receive, acknowledge receipt, validate formats, and store or merge lab test results submitted to them, along with any supplied allowed or excluded provider lists.	Data Content-Data Quality/Data Integrity	Edge	EHR - Lab		X		
768	IBM-304-02	Repositories	2 Should	Take proper action when lab results updates are sent (e.g. error correction, completeness, etc.) from the performing lab	Data Content-Data Quality/Data Integrity	Edge	EHR - Lab		X		
365	CSC-ALL-980	All Edge Systems (CSC)	May	Allow the clinician to notify the holder of suspect data	Data Content-Data Quality/Data Integrity	Edge	Infrastructure		X		
425	CSC-CE-850	CDO	May	Acknowledge completeness of data, and produce an exception list of validation errors to allow for human resolution.	Data Content-Data Quality/Data Integrity	Edge	CE - Consumer		X		
553	IBM-105-02	CDO	May	Be able to receive request to re-identify specified patient data to support event detection	Data Content-Data Quality/Data Integrity	Edge	Bio		X		
353	CSC-ALL-820	CDO-CDO NHIN Interface	May	Accept and respond asynchronously to requests for data	Data Content-Data Source	Core	Infrastructure	CSC-ALL-810 IBM-106-104		Similar to other functions, such as bi-directional messaging; Non-Functional Performance?	
563	IBM-106-08	CDO-EMR	1 Shall	Provide additional/revised patient data (demographics, clinical data, lab and radiology test orders and results) to monitor a previously detected event	Data Content-Data Source	Edge	Bio		E	Combined	
1088	NGIT-104	CDO-EMR	1 Shall	Identify source of externally-provided data	Data Content-Data Source	Edge	CE - Consumer	IBM-310-07 NGIT-104	E	Requires source of data as standard data content	FHA

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564	IBM-106-09	CDO-LIS	1 Shall	Provide additional/revised lab and radiology test orders and results to monitor a previously detected event	Data Content-Data Source	Edge	Bio		E	Combined	
506	IBM-101-07	CDO-LIS--CDO lab	1 Shall	Provide lab order data as specified in Biosurveillance use case in HL7 format for filtering by the CDO NHIN Interface System. Lab order data include: order number, order test name, and date and time of order.	Data Content-Data Source	Edge	Bio		E		
507	IBM-101-08	CDO-LIS--CDO lab	1 Shall	Provide lab result data as specified in Biosurveillance use case in HL7 format for filtering by the CDO NHIN Interface System. Lab result data include: reporting lab ID, performing lab ID, report date/time, report status, collection date, collection method, organism, method type, result unit, test interpretation, and test status.	Data Content-Data Source	Edge	Bio		E		
508	IBM-101-09	CDO-LIS--Reference lab	1 Shall	Provide lab order data as specified in Biosurveillance use case in HL7 format for filtering by the CDO NHIN Interface System. Lab order data include: order number, order test name, and date and time of order.	Data Content-Data Source	Edge	Bio		E		
509	IBM-101-10	CDO-LIS--Reference lab	1 Shall	Provide lab result data as specified in Biosurveillance use case in HL7 format for filtering by the CDO NHIN Interface System. Lab result data include: reporting lab ID, performing lab ID, report date/time, report status, collection date, collection method, organism, method type, result unit, test interpretation, and test status.	Data Content-Data Source	Edge	Bio		E		
510	IBM-101-11	NHIN Administration-Utilization Reporting System (IBM)	1 Shall	Provide institution data as specified in the Biosurveillance use case. Institution data includes hospital system, main facility ID/name, physical facility address, and total number of beds in institution.	Data Content-Data Source	Edge	Biosurveillance		E		
511	IBM-101-12	NHIN Administration-Utilization Reporting System (IBM)	1 Shall	Provide unit-level census data as specified in the Biosurveillance use case. Unit-level census data includes: unit name, number of patients by unit, number of beds available by unit, and emergency room triage marginal capacity as a percentage and head-count.	Data Content-Data Source	Edge	Biosurveillance		E		
512	IBM-101-13	NHIN Administration-Utilization Reporting System (IBM)	1 Shall	Provide facility utilization data as specified in the Biosurveillance use case. Facility utilization data includes: admissions in last 24 hours at institution, discharges in last 24 hours at institution, deaths in last 24 hours at institution, date and time of report.	Data Content-Data Source	Edge	Biosurveillance		E		

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565	IBM-106-10	NHIN Administration-Utilization Reporting System (IBM)	1 Shall	Provide additional/revised resource utilization data (institution data, unit level census data and facility utilization) to monitor a previously detected event	Data Content-Data Source	Edge	Biosurveillance		E		
112	ACN-04.7	Repositories	1 Shall	Store core clinical patient data.	Data Content-Data Source	Edge	Infrastructure		X		
361	CSC-ALL-945	Repositories	1 Shall	Accept and apply various filters as part of an incoming query, for example results for a specific Lab order number.	Data Content-Data Source	Edge	Infrastructure		X		FHA
748	IBM-212-32	Consumer System-PHR	May	Offer the ability to read remote electronic medication or diagnostics monitoring devices	Data Content-Data Source	Edge	CE - Consumer		X		
559	IBM-106-04	CDO-CDO NHIN Interface	1 Shall	Provide for real-time, bi-directional secure messaging between PH Agencies and CDOs to monitor a previously detected event	Data Content-Data Usage	Core	Bio	ACN-03.3.1 ACN-03.1.1	N	Combined	FHA
86	ACN-03.3.1	CDO-EMR	1 Shall	Enable edge systems to acquire data to populate a Electronic Health Record.	Data Content-Data Usage	Core	EHR - Lab	ACN-03.3.1 IBM-106-04	N	Combined	
76	ACN-03.1.1	Consumer System-PHR	1 Shall	Enable edge systems to acquire data to populate a Personal Health Record.	Data Content-Data Usage	Core	CE - Consumer	ACN-03.3.1 IBM-106-4	N	Combined	
141	ACN-06.1.4	Data Analysis and Secondary Use Systems	1 Shall	Aggregate anonymized health data from participating edge systems.	Data Content-Data Usage	Core	Bio	ACN-06.1.5	E		FHA
133	ACN-06.1	Data Analysis and Secondary Use Systems-Public Health	1 Shall	Aggregate anonymized patient health data for biosurveillance, drug and medical product safety monitoring, and use by regulators to support the review and approval of new drugs and device applications.	Data Content-Data Usage	Core	Bio		E	Definition needed for "anonymize" in light of using PHI in accordance with HIPAA requirements. If Data Analysis and Secondary Use Systems - Public Health are Edge Systems (which it seems like they should be), then these functions are E.	
142	ACN-06.1.5	Data Analysis and Secondary Use Systems-Public Health	1 Shall	Generate aggregated anonymized data for federal public health agencies.	Data Content-Data Usage	Core	Bio	ACN-06.1.7 ACN-06.1.6	E		
143	ACN-06.1.6	Data Analysis and Secondary Use Systems-Public Health	1 Shall	Generate aggregated anonymized data for state public health agencies.	Data Content-Data Usage	Core	Bio	ACN-06.1.5 ACN-06.1.7	E		
145	ACN-06.1.8	Data Analysis and Secondary Use Systems-Public Health	1 Shall	Generate alerts/notifications to public health users based on public health algorithms.	Data Content-Data Usage	Core	Bio	ACN-06.1.9	E		FHA

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147	ACN-06.2	Data Analysis and Secondary Use Systems-Public Health	1 Shall	Allow public health users to access aggregated anonymized health data.	Data Content-Data Usage	Core	Bio	ACN-03.3.1 ACN-03.1.1 IBM-106-04		Seems like Authentication	
74	ACN-03	External User interfaces	1 Shall	Enable users to access healthcare data.	Data Content-Data Usage	Core	Infrastructure	ACN-03.3.1 ACN-03.1.1 IBM-106-04	X	Broad statement of purpose actualized at Edge	
126	ACN-05.1.3	NHIN Administration	1 Shall	Establish Operational Agreements with all certified members.	Data Content-Data Usage	Core	Infrastructure			Seems to be policy	
132	ACN-06	NHIN Overarching (ACN)	1 Shall	Generate reports and derive insights from healthcare data	Data Content-Data Usage	Core	Bio		X	Does not seem like a Networking function	
85	ACN-03.3	CDO-EMR	1 Shall	Enable providers to access a patient's Electronic Health Record.	Data Content-Data Usage	Edge	CE, EHR		X	The following marked X seem to be exclusively Edge functions and in many cases X Data Rendering functions.	
87	ACN-03.3.10	CDO-EMR	1 Shall	Enable providers to more easily report adverse drug reactions.	Data Content-Data Usage	Edge	EHR - Lab		X		
88	ACN-03.3.11	CDO-EMR	1 Shall	Capture clinical information as part of the normal health care interaction that can be used for clinical trials in a 21CFR Part 11 compliant manner.	Data Content-Data Usage	Edge	EHR - Lab		X		
89	ACN-03.3.2	CDO-EMR	1 Shall	Present patient demographic information as part of the Electronic Health Record.	Data Content-Data Usage	Edge	EHR - Lab		X		
90	ACN-03.3.3	CDO-EMR	1 Shall	Present patient financial and insurance information as part of the Electronic Health Record.	Data Content-Data Usage	Edge	EHR - Lab		X		
91	ACN-03.3.4	CDO-EMR	1 Shall	Present patient allergy information as part of the Electronic Health Record.	Data Content-Data Usage	Edge	EHR - Lab		X		
92	ACN-03.3.5	CDO-EMR	1 Shall	Present patient medication history as part of the Electronic Health Record.	Data Content-Data Usage	Edge	EHR - Lab		X		
93	ACN-03.3.6	CDO-EMR	1 Shall	Present patient conditions as part of the Electronic Health Record.	Data Content-Data Usage	Edge	EHR - Lab		X		
94	ACN-03.3.7	CDO-EMR	1 Shall	Present a list of patient procedures and surgeries as part of the Electronic Health Record.	Data Content-Data Usage	Edge	EHR - Lab		X		
95	ACN-03.3.8	CDO-EMR	1 Shall	Present patient laboratory results as part of the Electronic Health Record.	Data Content-Data Usage	Edge	EHR - Lab		X		
96	ACN-03.3.9	CDO-EMR	1 Shall	Enable providers and investigators to find and enroll their patients in clinical trials.	Data Content-Data Usage	Edge	EHR - Lab		X		

Analysis performed by Margret Amatayakul

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921	IBM-311-06	CDO-EMR	1 Shall	Flag new results within EHR	Data Content-Data Usage	Edge	EHR - Lab		X		
77	ACN-03.1.2	Consumer System-PHR	1 Shall	Present patient demographic information as part of the Personal Health Record.	Data Content-Data Usage	Edge	CE - Consumer		X		
78	ACN-03.1.3	Consumer System-PHR	1 Shall	Present patient financial and insurance information as part of the Personal Health Record.	Data Content-Data Usage	Edge	CE - Consumer		X		
79	ACN-03.1.4	Consumer System-PHR	1 Shall	Present patient allergy information as part of the Personal Health Record.	Data Content-Data Usage	Edge	CE - Consumer		X		
80	ACN-03.1.5	Consumer System-PHR	1 Shall	Present patient medication history as part of the Personal Health Record.	Data Content-Data Usage	Edge	CE - Consumer		X		
81	ACN-03.1.6	Consumer System-PHR	1 Shall	Present patient conditions as part of the Personal Health Record.	Data Content-Data Usage	Edge	CE - Consumer		X		
82	ACN-03.1.7	Consumer System-PHR	1 Shall	Present a list of patient procedures and surgeries as part of the Personal Health Record.	Data Content-Data Usage	Edge	CE - Consumer		X		
83	ACN-03.2.1	Consumer System-PHR	1 Shall	Enable patient proxies to access the Personal Health Record of their associated patients.	Data Content-Data Usage	Edge	CE - Consumer		X		
84	ACN-03.2.2	Consumer System-PHR	1 Shall	Enable patients and their proxies to find and enroll in appropriate clinical trials	Data Content-Data Usage	Edge	CE - Consumer		X		
646	IBM-207-26	Consumer System-PHR	1 Shall	Allow for edits	Data Content-Data Usage	Edge	CE - Consumer	CSC-CE-570	X		
135	ACN-06.1.10	Data Analysis and Secondary Use Systems	1 Shall	Generate a relinking identifier for patients included in the anonymized data.	Data Content-Data Usage	Edge	Bio		X	If Data Analysis and Secondary Use Systems - Public Health are Edge Systems (which it seems like they should be), then these functions are exclusive to the Edge (X).	
136	ACN-06.1.11	Data Analysis and Secondary Use Systems-Public Health	1 Shall	Allow authorized public health users to access a patient's information using the relinking identifier.	Data Content-Data Usage	Edge	Bio		X		
139	ACN-06.1.2	Data Analysis and Secondary Use Systems-Public Health	1 Shall	Generate anonymized health data.	Data Content-Data Usage	Edge	Bio		X		

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144	ACN-06.1.7	Data Analysis and Secondary Use Systems-Public Health	1 Shall	Generate aggregated anonymized data for local public health agencies.	Data Content-Data Usage	Edge	Bio	ACN-06.1.5 ACN-06.1.6	X		
146	ACN-06.1.9	Data Analysis and Secondary Use Systems-Public Health	1 Shall	Generate alerts/notifications to public health users based on public health algorithms.	Data Content-Data Usage	Edge	Bio	ACN-06.1.8	X		
392	CSC-BIO-590	Data Analysis and Secondary Use Systems-Public Health	1 Shall	Receive, acknowledge receipt, validate format, and log BIOsurveillance data	Data Content-Data Usage	Edge	Bio	IBM-104-05 NGIT-078 NGIT-077 IBM-104-03	X		
566	IBM-106-11	Data Analysis and Secondary Use Systems-Public Health	1 Shall	Perform additional data mining to monitor a previously identified event	Data Content-Data Usage	Edge	Biosurveillance		X		
106	ACN-04.16	External User interfaces	1 Shall	Present data to users in a usable, readable format.	Data Content-Data Usage	Edge	Infrastructure			Seems to be a Data Rendering function	
154	ACN-06.3	Health Information Intermediaries	1 Shall	Aggregate anonymized patient health data to support clinical research, including cohort, longitudinal, placebo population, demonstration of efficacy, pharmacoeconomic, and drug outcome comparator studies.	Data Content-Data Usage	Edge	Infrastructure	ACN-06.1.4 ACN-06.1 ACN-06.1.5 ACN-06.1.6	E	Combined	
105	ACN-04.15	Message Handling	1 Shall	Communicate patient health data to other edge systems in the NHIN standard message format.	Data Content-Data Usage	Edge	Infrastructure	CSC-ALL-50 IBM-303-05 IBM-303-06	N	Seems duplicative of functions in Data Content	FHA
362	CSC-ALL-950	All Edge Systems (CSC)	2 Should	Display the results of queries that it initiates if the query was initiated through a human user interface.	Data Content-Data Usage	Edge	Infrastructure		E	Seems to be a Data Rendering function	
382	CSC-BIO-410	CDO	2 Should	Provide data management, including review of patient information to identify data elements necessary for BIOsurveillance, and automatic sharing with Public Health Agencies	Data Content-Data Usage	Edge	Bio		X		
447	CSC-EHR-480	CDO	2 Should	Receive query results, acknowledge them, validate their format, and report exceptions.	Data Content-Data Usage	Edge	EHR - Lab		X		
381	CSC-BIO-400	Data Analysis and Secondary Use Systems-Public Health	2 Should	Provide measurable utility to improve surveillance	Data Content-Data Usage	Edge	Bio		X		
363	CSC-ALL-960	All Edge Systems (CSC)	May	Persist the results of queries that it initiates.	Data Content-Data Usage	Edge	Infrastructure			Seems to be Data Storage	
364	CSC-ALL-970	All Edge Systems (CSC)	May	Print the results of queries that it displays	Data Content-Data Usage	Edge	Infrastructure		X		

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376	CSC-BIO-250	CDO	May	Provide institution data including Hospital System, Main Facility ID/name, physical facility address, and total number of beds in institution	Data Content-Data Usage	Edge	Bio	CSC-BIO-560		See Data Source	
377	CSC-BIO-260	CDO	May	Provide Unit-level Census Data including unit name, number of patients by unit, number of beds available by unit, and emergency room triage marginal capacity as a percentage and head-count	Data Content-Data Usage	Edge	Bio	CSC-BIO-560		See Data Source	
378	CSC-BIO-270	CDO	May	Provide Facility Utilization Data including admissions in last 24 hours at institution, discharges in last 24 hours at institution, deaths in last 24 hours at institution, date and time of report	Data Content-Data Usage	Edge	Bio	CSC-BIO-560		See Data Source	
379	CSC-BIO-310	CDO	May	Provide information to support unique identification of data records (and avoid double counting)	Data Content-Data Usage	Edge	Bio	CSC-BIO-560		See Information Location	
424	CSC-CE-810	CDO	May	Accept, acknowledge, validate format, and incorporate registration data, consumer-entered data, medication data, and/or consumer annotations.	Data Content-Data Usage	Edge	CE - Consumer		X		
448	CSC-EHR-490	CDO	May	Display, print and/or store query results on the local system, and possibly flag their availability. The display may include browsing and drill-down functions.	Data Content-Data Usage	Edge	EHR - Lab		X		
725	IBM-212-09	Consumer System-PHR	May	Enable the PHR Account Holder to add past and present information about other modalities of treatment used.	Data Content-Data Usage	Edge	CE - Consumer		X		
726	IBM-212-10	Consumer System-PHR	May	Enable the PHR Account Holder to self-report symptoms or concerns in a chronologically sortable diary.	Data Content-Data Usage	Edge	CE - Consumer		X		
727	IBM-212-11	Consumer System-PHR	May	Enable the PHR Account Holder to add information about religious/spiritual beliefs that he or she wants Health Care Providers to know.	Data Content-Data Usage	Edge	CE - Consumer		X		
728	IBM-212-12	Consumer System-PHR	May	Enable the PHR Account Holder to add information about personal health goals, next steps or other notes related to his or her health or conditions, or any other information he or she wants Health Care Providers to know.	Data Content-Data Usage	Edge	CE - Consumer		X		
732	IBM-212-16	Consumer System-PHR	May	Provide one-screen bulleted and printable health summary	Data Content-Data Usage	Edge	CE - Consumer		X		
733	IBM-212-17	Consumer System-PHR	May	Enable an Authorized PHR User to display laboratory and test results by means of flow sheets, graphs, or other tools that enable the discovery of trends.	Data Content-Data Usage	Edge	CE - Consumer		X		

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735	IBM-212-19	Consumer System-PHR	May	Provide multiple printer friendly functions to allow consumer to create hard copies of records	Data Content-Data Usage	Edge	CE - Consumer		X		
736	IBM-212-20	Consumer System-PHR	May	Track and graph tests over time	Data Content-Data Usage	Edge	CE - Consumer		X		
737	IBM-212-21	Consumer System-PHR	May	Offer patient education and self-care modules	Data Content-Data Usage	Edge	CE - Consumer		X		
738	IBM-212-22	Consumer System-PHR	May	Create and offer links to other educational sites	Data Content-Data Usage	Edge	CE - Consumer		X		
739	IBM-212-23	Consumer System-PHR	May	Offer secure electronic communication between consumer and provider	Data Content-Data Usage	Edge	CE - Consumer		X		
740	IBM-212-24	Consumer System-PHR	May	Offer provider initiated auto-reminders for the PHR Account Holder	Data Content-Data Usage	Edge	CE - Consumer		X		
741	IBM-212-25	Consumer System-PHR	May	Provide access to intake forms	Data Content-Data Usage	Edge	CE - Consumer		X		
742	IBM-212-26	Consumer System-PHR	May	Allow the consumer to request appointments with their care providers through PHR	Data Content-Data Usage	Edge	CE - Consumer		X		
743	IBM-212-27	Consumer System-PHR	May	Allow for preliminary screenings and follow-ups with secure messaging	Data Content-Data Usage	Edge	CE - Consumer		X		
744	IBM-212-28	Consumer System-PHR	May	Check drug-to-drug interactions	Data Content-Data Usage	Edge	CE - Consumer		X		
745	IBM-212-29	Consumer System-PHR	May	Check insurance coverage for prescribed drugs	Data Content-Data Usage	Edge	CE - Consumer		X		
746	IBM-212-30	Consumer System-PHR	May	Remind the PHR Account Holder about prescription renewals	Data Content-Data Usage	Edge	CE - Consumer		X		
747	IBM-212-31	Consumer System-PHR	May	Support biosurveillance and data mining activity	Data Content-Data Usage	Edge	CE - Consumer		X		
751	IBM-212-35	Consumer System-PHR	May	Offer health care cost estimate tools	Data Content-Data Usage	Edge	CE - Consumer		X		
439	CSC-EHR-410	RLS	1 Shall	Receive, acknowledge, validate format, and store patient demographic identifying information and updates and record locations.	Data Storage-Persistent Data Storage	Core	EHR - Lab	CSC-ALL-50 IBM-303-05 IBM-303-06		Seems duplicative of functions in Data Content	
800	IBM-305-07	RLS	1 Shall	Store and index new lab result event location information by appropriate patient and other indices. Other indices are determined by the marketplace	Data Storage-Persistent Data Storage	Core	EHR - Lab			Seems duplicative of functions in Data Content	
1038	NGIT-054	CDO	1 Shall	Electronically collect demographic and clinical data for public health reporting	Data Storage-Persistent Data Storage	Edge	Bio	CSC-BIO-340 CSC-BIO-510	X		
919	IBM-311-04	CDO-EMR	1 Shall	Parse and validate lab results content	Data Storage-Persistent Data Storage	Edge	EHR - Lab		X		

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920	IBM-311-05	CDO-EMR	1 Shall	Merge data into EHR	Data Storage-Persistent Data Storage	Edge	EHR - Lab		X		
953	IBM-316-09	CDO-EMR	1 Shall	Store lab order information	Data Storage-Persistent Data Storage	Edge	EHR - Lab	IBM-316-17	X		
761	IBM-303-03	CDO-LIS	1 Shall	Store lab test results in data repository and note restrictions for use (providers of care list, patient consent restrictions or sensitivity restrictions)	Data Storage-Persistent Data Storage	Edge	EHR - Lab		X		
961	IBM-316-17	CDO-LIS	1 Shall	Store lab order information	Data Storage-Persistent Data Storage	Edge	EHR - Lab	IBM-316-09	X		
1097	NGIT-118	CDO-LIS	1 Shall	Collect and persist laboratory result data to support electronic exchange with stakeholders	Data Storage-Persistent Data Storage	Edge	EHR - Lab		X		
1058	NGIT-073	CDO-Registration	1 Shall	Electronically collect census and utilization data to support public health reporting	Data Storage-Persistent Data Storage	Edge	Bio		X		
403	CSC-CE-560	Consumer System-PHR	1 Shall	Persist PHR information	Data Storage-Persistent Data Storage	Edge	CE - Consumer		X		
406	CSC-CE-590	Consumer System-PHR	1 Shall	Persist consumer edits and annotations to PHR information	Data Storage-Persistent Data Storage	Edge	CE - Consumer		X		
407	CSC-CE-600	Consumer System-PHR	1 Shall	Close PHR account when requested by authenticated consumer.	Data Storage-Persistent Data Storage	Edge	CE - Consumer	IBM-211-01	X		
408	CSC-CE-620	Consumer System-PHR	1 Shall	Notify customer that PHR account is closed	Data Storage-Persistent Data Storage	Edge	CE - Consumer	NGIT-098	X		
654	IBM-207-34	Consumer System-PHR	1 Shall	Import annotated/modified data into the PHR system	Data Storage-Persistent Data Storage	Edge	CE - Consumer		X		
1066	NGIT-082	Consumer System-PHR	1 Shall	Support creation of unique consumer account	Data Storage-Persistent Data Storage	Edge	CE - Consumer		X		
931	IBM-312-07	External User interfaces	1 Shall	Save lab results in local system	Data Storage-Persistent Data Storage	Edge	EHR - Lab		X		
1131	NGIT-156	Health Information Intermediaries	1 Shall	Electronically collect demographic and clinical data for public health reporting	Data Storage-Persistent Data Storage	Edge	Bio		X		
936	IBM-314-01	Repositories	1 Shall	Store multiple types of clinical data (Lab, Rx, diagnostic, procedure reports, genomic data, patient teaching, clinical progress notes, etc)	Data Storage-Persistent Data Storage	Edge	EHR - Lab	IBM-304-09	X		

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937	IBM-314-02	Repositories	1 Shall	Store data from multiple types of media (video, audio, still images, unstructured text, coded data)	Data Storage-Persistent Data Storage	Edge	EHR - Lab		X		FHA
940	IBM-314-05	Repositories	1 Shall	Store, maintain and have capability to retrieve data for amount of time required by law (Federal, state, local)	Data Storage-Persistent Data Storage	Edge	EHR - Lab		X		FHA
549	IBM-104-07	Data Analysis and Secondary Use Systems-Public Health	2 Should	Store lab test results received from all participating Care Delivery Organizations	Data Storage-Persistent Data Storage	Edge	Biosurveillance		X		
938	IBM-314-03	Repositories	2 Should	Store all data using standard format and vocabulary	Data Storage-Persistent Data Storage	Edge	EHR - Lab		X		FHA
939	IBM-314-04	Repositories	2 Should	Store, maintain and have capability to retrieve minimum set of data for lifetime of patient	Data Storage-Persistent Data Storage	Edge	EHR - Lab		X		
942	IBM-314-07	Repositories	2 Should	Provide ability to configure amount of time for data storage for each data type	Data Storage-Persistent Data Storage	Edge	EHR - Lab	IBM-103-01	X		
1117	NGIT-140	CDO-EMR	May	Receive, process, and persist laboratory result data	Data Storage-Persistent Data Storage	Edge	EHR - Lab		X		
412	CSC-CE-670	Consumer System-PHR	May	Establish a PHR account containing user authentication credentials	Data Storage-Persistent Data Storage	Edge	CE - Consumer		X		
1116	NGIT-139	Health Information Intermediaries	May	Collect and persist laboratory result data to support electronic exchange with stakeholders	Data Storage-Persistent Data Storage	Edge	EHR - Lab		X		
1132	NGIT-157	Payer Systems	May	Electronically collect demographic and clinical data for public health reporting	Data Storage-Persistent Data Storage	Edge	Bio		X		
517	IBM-102-05	CDO-CDO NHIN Interface	1 Shall	Aggregate all identified data associated with complete lab encounter	Data Storage-Transient Data	Core	Bio	IBM-103-05 IBM-310-05	N	Combined	
532	IBM-103-05	CDO-CDO NHIN Interface	1 Shall	Aggregate all identified data associated with complete lab encounter	Data Storage-Transient Data	Core	Bio	IBM-102-05		Exact duplicate	

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911	IBM-310-05	NHIN Administration-Data Stager (IBM)	1 Shall	Hold and aggregate data or error messages received from the data repository as determined by the community. If the data stager receives the data from the data source on behalf of the clinician, the data stager may: 1) hold and aggregate data from each data source and transmit to clinician when all queried data sources have responded to the request 2) hold data received until a time limit specified by the marketplace has been met, sending the remaining response as they are received 3) immediately send data as it is received	Data Storage-Transient Data	Edge	EHR - Lab	IBM-102-05	E	Combined	FHA
514	IBM-102-02	CDO	1 Shall	Receive notification from PH Agency of data to be sent	Data Transaction-(Pull)	Core	Bio	IBM-103-02	N	This seems to be a function that applies even beyond public health, such as for new lab results, new PHR data, etc.	
529	IBM-103-02	CDO	1 Shall	Receive notification from PH Agency of patient care data to be sent	Data Transaction-(Pull)	Core	Bio	IBM-102-02	N	Combined with other related functions	
677	IBM-209-12	CDO	1 Shall	Transmit request to receive registration/medication history from PHR through NHIN	Data Transaction-(Pull)	Core	Infrastructure	ACN-02.2 ACN-02.3.3 IBM-307-21 IBM-307-45	N	Combined with other related functions	
328	CSC-ALL-40	CDO-CDO NHIN Interface	1 Shall	Include initiating user and institution information with each query and pushed message.	Data Transaction-(Pull)	Core	Infrastructure	CSC-ALL-780 and other Data Content fcns	N	Requires source of data as standard data content (see Data Content). Combined with other related functions	
345	CSC-ALL-750	CDO-CDO NHIN Interface	1 Shall	Accept and respond to authenticated and authorized queries for Lab results and/or other data for a patient.	Data Transaction-(Pull)	Core	Infrastructure	IBM-305-03 and other related Data Quality/Integrity fcns	E	See also Data Quality/Integrity	
348	CSC-ALL-780	CDO-CDO NHIN Interface	1 Shall	Accept lists of other SNOs to contact as part of queries, and shall query the these other SNOs in addition to querying repositories within its SNO.	Data Transaction-(Pull)	Core	Infrastructure	CSC-ALL-40 and other Data Content fcns	N	Combined	
349	CSC-ALL-790	CDO-CDO NHIN Interface	1 Shall	Only query indicated repositories within the SNO, unless an ambiguous query is made, requesting resolution of patient identity and repository locations.	Data Transaction-(Pull)	Core	Infrastructure			Seems to contraindicate CSC-ALL-780	

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354	CSC-ALL-840	CDO-CDO NHIN Interface	1 Shall	Aggregate query responses from multiple data sources and return a single aggregated response to the querying entity.	Data Transaction-(Pull)	Core	Infrastructure	IBM-209-33 CSC-ALL-840 IBM-207-14	N	Combined	FHA
415	CSC-CE-690	Consumer System-Consumer NHIN Interface	1 Shall	Accept queries from, and return results to, fully-qualified PHRs for registration and medication data.	Data Transaction-(Pull)	Core	CE - Consumer	IBM-305-03 and other related fcns	N	Combined	
607	IBM-205-14	Consumer System-PHR	1 Shall	Aggregate appropriate records from NHIN query	Data Transaction-(Pull)	Core	Infrastructure	IBM-209-33 CSC-ALL-840 IBM-207-14	N	Combined	
29	ACN-02.2	External User interfaces	1 Shall	Enable providers to request patient data from participating edge systems in the NHIN.	Data Transaction-(Pull)	Core	EHR - Lab	IBM-209-12 ACN-02.3.3 IBM-307-21 IBM-307-45	N	Combined	
43	ACN-02.3.3	External User interfaces	1 Shall	Initiate a request for the identified edge system(s) to send the patient data to the requesting edge system.	Data Transaction-(Pull)	Core	CE, EHR	IBM-209-12 ACN-02.2 IBM-307-21 IBM-307-45	N	Combined	
34	ACN-02.3	RLS	1 Shall	Identify the unique patient in the user's request and locate the edge system(s) containing the patient data.	Data Transaction-(Pull)	Core	CE, EHR	CSC-ALL-40 CSC-ALL-780 IBM-307-21 IBM-307-25 IBM-307-29 IBM-307-45 and Data Content fcns	N	Combined	
841	IBM-307-21	RLS	1 Shall	Query remote marketplace for data locations if clinician has specified to find data in one or more remote marketplaces	Data Transaction-(Pull)	Core	EHR - Lab	CSC-ALL-40 CSC-ALL-780 ACN-02.3 IBM-307-25 IBM-307-29 IBM-307-45 and Data Content fcns	N	Combined	
845	IBM-307-25	RLS	1 Shall	Receive data locations from remote marketplace	Data Transaction-(Pull)	Core	EHR - Lab	CSC-ALL-40 CSC-ALL-780 ACN-02.3 IBM-307-21 IBM-307-29 IBM-307-45 and Data Content fcns	N	Combined	

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849	IBM-307-29	RLS	1 Shall	Send data location information from remote marketplace to authorized requesting clinician	Data Transaction-(Pull)	Core	EHR - Lab	CSC-ALL-40 CSC-ALL-780 ACN-02.3 IBM-307-21 IBM-307-25 IBM-307-45 and Data Content fcns	N	Combined	
865	IBM-307-45	RLS	1 Shall	Receive request for lab test results location based on one or more criteria for patient specified query	Data Transaction-(Pull)	Core	EHR - Lab	CSC-ALL-40 CSC-ALL-780 ACN-02.3 IBM-307-21 IBM-307-25 IBM-307-29 and Data Content fcns	N	Combined	
866	IBM-307-46	RLS	1 Shall	Send error message to clinician if specified lab results not found	Data Transaction-(Pull)	Core	EHR - Lab			See Data Quality/Integrity	
867	IBM-307-47	RLS	1 Shall	Send one or more result location (links) pointers to authorized clinician for the specified lab test result	Data Transaction-(Pull)	Core	EHR - Lab		E	Seems to assume a specific RLS architecture	
874	IBM-307-54	RLS	1 Shall	Log interaction with clinician	Data Transaction-(Pull)	Core	EHR - Lab			Seems to be an Audit and Logging Function	
352	CSC-ALL-810	CDO-CDO NHIN Interface	May	Communicate asynchronously with remote clinical data sources to handle varying response time characteristics of the data sources	Data Transaction-(Pull)	Core	Infrastructure			Similar to other functions, such as bi-directional messaging; Non-Functional	
356	CSC-ALL-880	All Edge Systems (CSC)	1 Shall	Use the CDO NHIN Interface to query outside the SNO for health data for a patient.	Data Transaction-(Pull)	Edge	Infrastructure		E		
41	ACN-02.3.15	CDO	1 Shall	Accept update messages from other edge systems.	Data Transaction-(Pull)	Edge	Infrastructure		E		
673	IBM-209-08	CDO	1 Shall	Transmit request to view registration/medication history directly from PHR system	Data Transaction-(Pull)	Edge	CE - Consumer		E		
697	IBM-209-33	CDO-CDO NHIN Interface	1 Shall	Aggregate appropriate records	Data Transaction-(Pull)	Edge	CE - Consumer		E	Functions from this point forward appear to be Edge counterparts of Network functions	
870	IBM-307-50	CDO-EMR	1 Shall	Receive the data repository location(s) where the test results are stored	Data Transaction-(Pull)	Edge	EHR - Lab		E	Equivalent of N	
875	IBM-307-55	CDO-EMR	1 Shall	Browse and select the relevant test results location information and select locations from which to request data	Data Transaction-(Pull)	Edge	EHR - Lab		E	Equivalent of N	

Analysis performed by Margret Amatayakul

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877	IBM-308-01	CDO-EMR	1 Shall	Send request for historical lab test result content directly to data repository (local or remote) from EHR or web application	Data Transaction-(Pull)	Edge	EHR - Lab		E	Equivalent of N	
881	IBM-308-05	CDO-EMR	1 Shall	Conform to approved, vocabulary, structure, privacy, security and messaging standards as provided by HITSP when transmitting patient data.	Data Transaction-(Pull)	Edge	EHR - Lab	IBM-308-06 CSC-CE-70 CSC-CE-790 CSC-CE-780		See Data Content	FHA
917	IBM-311-02	CDO-EMR	1 Shall	Receive requested historical lab test results into EHR	Data Transaction-(Pull)	Edge	EHR - Lab		X		
1086	NGIT-102	CDO-EMR	1 Shall	Process registration data received from CE	Data Transaction-(Pull)	Edge	CE - Consumer		X		
1087	NGIT-103	CDO-EMR	1 Shall	Process medication data received from CE	Data Transaction-(Pull)	Edge	CE - Consumer		X		
1090	NGIT-108	CDO-EMR	1 Shall	Receive and validate request for data from PHR	Data Transaction-(Pull)	Edge	CE - Consumer		X		
1092	NGIT-110	CDO-EMR	1 Shall	Support the transmission of registration & medication data	Data Transaction-(Pull)	Edge	CE - Consumer		X		
1107	NGIT-128	CDO-EMR	1 Shall	Transmit well formed query request for lab result data	Data Transaction-(Pull)	Edge	EHR - Lab	IBM-307-01		See Data Content	
1123	NGIT-148	CDO-LIS	1 Shall	Receive and process well formed query for laboratory test results according to HITSP specified implementation instructions	Data Transaction-(Pull)	Edge	EHR - Lab			See Data Content	
418	CSC-CE-740	Consumer System-PHR	1 Shall	Acknowledge receipt of and validate the format of received messages and requests	Data Transaction-(Pull)	Edge	CE - Consumer		X		
597	IBM-205-04	Consumer System-PHR	1 Shall	Transmit request for registration/medication history data to data/network systems to query documents from the NHIN	Data Transaction-(Pull)	Edge	CE - Consumer	NGIT-085 NGIT-086 NGIT-088 NGIT-087	E	Equivalent of N	
611	IBM-205-18	Consumer System-PHR	1 Shall	Use a medication transaction broker to pre-populate PHR with registration and medication history data	Data Transaction-(Pull)	Edge	CE - Consumer		E	Equivalent of N	
634	IBM-207-14	Consumer System-PHR	1 Shall	Aggregate appropriate records from NHIN query	Data Transaction-(Pull)	Edge	CE - Consumer		E	Equivalent of N	
1073	NGIT-089	Consumer System-PHR	1 Shall	Receive and process registration data	Data Transaction-(Pull)	Edge	CE - Consumer	CSC-CE-730 IBM-205-21 IBM-207-21	X		
1074	NGIT-090	Consumer System-PHR	1 Shall	Receive and process medication data	Data Transaction-(Pull)	Edge	CE - Consumer	CSC-CE-730 IBM-205-21 IBM-207-21	X		
1075	NGIT-091	Consumer System-PHR	1 Shall	Acknowledge receipt of data	Data Transaction-(Pull)	Edge	CE - Consumer	IBM-205-23 IBM-207-23		See Data Quality/Integrity	
1077	NGIT-093	Consumer System-PHR	1 Shall	Provide listing of lab result transactions received but not processed or loaded into EMR	Data Transaction-(Pull)	Edge	CE - Consumer		X		

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1080	NGIT-096	Consumer System-PHR	1 Shall	Transmit registration data to authorized system	Data Transaction-(Pull)	Edge	CE - Consumer	IBM-207-04 CSC-CE-770	X		
1081	NGIT-097	Consumer System-PHR	1 Shall	Transmit medication data to authorized system	Data Transaction-(Pull)	Edge	CE - Consumer	IBM-207-04 CSC-CE-770	X		
822	IBM-307-02	External User interfaces	1 Shall	Query locator system for laboratory (historical) test results location	Data Transaction-(Pull)	Edge	EHR - Lab		E	Equivalent of N	
871	IBM-307-51	External User interfaces	1 Shall	Receive the data repository location(s) where the test results are stored	Data Transaction-(Pull)	Edge	EHR - Lab	IBM-307-50	E	Equivalent of N	
876	IBM-307-56	External User interfaces	1 Shall	Browse and select the relevant test results location information and select locations from which to request data	Data Transaction-(Pull)	Edge	EHR - Lab	IBM-307-55	E	Equivalent of N	
878	IBM-308-02	External User interfaces	1 Shall	Send request for historical lab test result content directly to data repository (local or remote) from EHR or web application	Data Transaction-(Pull)	Edge	EHR - Lab	IBM-308-01	E	Equivalent of N	
882	IBM-308-06	External User interfaces	1 Shall	Conform to approved, vocabulary, structure, privacy, security and messaging standards as provided by HITSP when transmitting patient data.	Data Transaction-(Pull)	Edge	EHR - Lab	IBM-308-05 CSC-CE-70 CSC-CE-790 CSC-CE-780		See Data Content	
925	IBM-312-01	External User interfaces	1 Shall	Receive laboratory test results in web application from data repository or data stager	Data Transaction-(Pull)	Edge	EHR - Lab	IBM-311-02	E	Equivalent of N	
1109	NGIT-130	External User interfaces	1 Shall	Transmit well formed query request for lab result data	Data Transaction-(Pull)	Edge	EHR - Lab	IBM-209-08	E	Equivalent of N	
1124	NGIT-149	Health Information Intermediaries	1 Shall	Receive and process well formed query for laboratory test results according to HITSP specified implementation instructions	Data Transaction-(Pull)	Edge	EHR - Lab			See Data Content	
1130	NGIT-155	Health Information Intermediaries	1 Shall	Transmit well formed result messages according to a HITSP specified implementation instruction.	Data Transaction-(Pull)	Edge	EHR - Lab			See Data Content	
886	IBM-308-10	NHIN Administration-Data Stager (IBM)	1 Shall	Transmit request for lab data repository on behalf of the clinician	Data Transaction-(Pull)	Edge	EHR - Lab	IBM-209-08	E	Equivalent of N	
907	IBM-310-01	NHIN Administration-Data Stager (IBM)	1 Shall	Receive requested lab results form data repository if acting on behalf of the requesting clinician	Data Transaction-(Pull)	Edge	EHR - Lab		E	Equivalent of N	
910	IBM-310-04	NHIN Administration-Data Stager (IBM)	1 Shall	Conform to approved, vocabulary, structure, privacy, security and messaging standards as provided by HITSP when transmitting patient data	Data Transaction-(Pull)	Edge	EHR - Lab			See Data Content	
902	IBM-309-10	Repositories	1 Shall	Transmit lab results requested by an ordering clinician or other authorized provider of care for an identified patient to the requesting entity (clinician or data stager)	Data Transaction-(Pull)	Edge	EHR - Lab		E	Equivalent of N	

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879	IBM-308-03	CDO-EMR	2 Should	Submit request for lab test results through a data stager	Data Transaction-(Pull)	Edge	EHR - Lab		E	Equivalent of N	
880	IBM-308-04	External User interfaces	2 Should	Submit request for lab test results through a data stager	Data Transaction-(Pull)	Edge	EHR - Lab		E	Equivalent of N	
340	CSC-ALL-660	Repositories	2 Should	Return clinical data in response to authorized queries.	Data Transaction-(Pull)	Edge	Infrastructure		E		
446	CSC-EHR-470	Repositories	2 Should	Receive, acknowledge, and validate the format of queries, control access, process queries, and filter and return results.	Data Transaction-(Pull)	Edge	EHR - Lab		X		
355	CSC-ALL-870	All Edge Systems (CSC)	May	Use the CDO NHIN Interface to query health data for a patient within a SNO.	Data Transaction-(Pull)	Edge	Infrastructure	CSC-ALL-880	E	Equivalent of N	
422	CSC-CE-780	CDO	May	Transmit a query that are formatted according to HITSP standards and implementation guides, for consumer health data to a PHR system. The query will contain the PHR location and patient/consumer provided credentials.	Data Transaction-(Pull)	Edge	CE - Consumer	IBM-308-05 IBM-308-06 CSC-CE-790 CSC-CE-70		See Data Quality/Integrity	FHA
423	CSC-CE-790	CDO	May	Receive the data results, that are formatted according to HITSP standards and implementation guides, from a query to a PHR system	Data Transaction-(Pull)	Edge	CE - Consumer	IBM-308-05 IBM-308-06 CSC-CE-780 CSC-CE-70		See Data Quality/Integrity	
426	CSC-CE-870	CDO	May	Accept provider/operator-mediated authorized requests over the NHIN for data to be subsequently transferred to a patient's PHR. These requests must stipulate that the results will be viewed by the patient.	Data Transaction-(Pull)	Edge	CE - Consumer		E	"May" function may not be minimum essential	
427	CSC-CE-890	CDO	May	Under provider/operator control, transmit data that is formatted according to HITSP standards and implementation guides, accompanied by the patient's credentials, to a patient's PHR	Data Transaction-(Pull)	Edge	CE - Consumer	IBM-308-05 IBM-308-06 CSC-CE-780 CSC-CE-70		See Data Quality/Integrity	
443	CSC-EHR-440	CDO	May	Query the NHIN Interface for historical lab results. Queries contain the identity and organization of the requester, and may contain a filtering specification, such as to return only results from a specified order number.	Data Transaction-(Pull)	Edge	EHR - Lab			See Data Filtering	
554	IBM-105-03	CDO	May	Be able to provide re-identified data for specific patients upon authorized request to Public Health agencies to support event detection	Data Transaction-(Pull)	Edge	Bio		E	"May" function may not be minimum essential	
1122	NGIT-147	CDO-EMR	May	Receive and process well formed query for laboratory test results according to HITSP specified implementation instructions	Data Transaction-(Pull)	Edge	EHR - Lab	IBM-308-05 IBM-308-06 CSC-CE-780 CSC-CE-70		See Data Quality/Integrity	
413	CSC-CE-678	Consumer System-PHR	May	Input data from, or store data to, offline storage devices	Data Transaction-(Pull)	Edge	CE - Consumer		X		

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414	CSC-CE-680	Consumer System-PHR	May	Query other PHRs for accessible data using consumer provided credentials	Data Transaction-(Pull)	Edge	CE - Consumer			See Credentialing	
638	IBM-207-18	Consumer System-PHR	May	Use a medication transaction broker to pull updated registration and medication history data into the PHR	Data Transaction-(Pull)	Edge	CE - Consumer		X		
711	IBM-211-04	Consumer System-PHR	May	Import standardized data when creating a new PHR account	Data Transaction-(Pull)	Edge	CE - Consumer	IBM-308-05 IBM-308-06 CSC-CE-780 CSC-CE-70		See Data Quality/Integrity	
552	IBM-105-01	Data Analysis and Secondary Use Systems-Public Health	May	Be able to request re-identification of specified patient data to support event detection	Data Transaction-(Pull)	Edge	Biosurveillance			"May" function may not be minimum essential	
555	IBM-105-04	Data Analysis and Secondary Use Systems-Public Health	May	Be able to receive re-identified data for specific patients upon authorized request from CDOs to support event detection	Data Transaction-(Pull)	Edge	Biosurveillance		X		
570	IBM-107-04	NHIN Administration-Biosurveillance Responder System (IBM)	May	Allows biosurveillance responder to subscribe to receive biosurveillance event response messages as secure email and/or directly into web application to support event response	Data Transaction-(Pull)	Edge	Biosurveillance		X		
337	CSC-ALL-600	Repositories	May	Use the identity of the querying organization and originator in determining which records it will return, based on its own policies.	Data Transaction-(Pull)	Edge	Infrastructure		X		
339	CSC-ALL-650	Repositories	May	Accept queries for clinical data, from authorized providers of care	Data Transaction-(Pull)	Edge	Infrastructure		E	Equivalent of N	
332	CSC-ALL-430	CDO-CDO NHIN Interface	1 Shall	Deliver messages to destination organizations, or notify the sender that they are "Undeliverable".	Data Transaction-(Push)	Core	Infrastructure	IBM-102-10 ACN-02.3.12 CSC-ALL-300 CSC-ALL-400 CSC-EHR-420	N	Combined	
522	IBM-102-10	CDO-CDO NHIN Interface	1 Shall	Transmit the matching and normalized data along with any appropriate metadata (e.g., limited patient demographics) to appropriate public health agencies	Data Transaction-(Push)	Core	Bio	CSC-ALL-430 ACN-02.3.12 CSC-ALL-300 CSC-ALL-400 CSC-EHR-420	N	Combined and assume matching and normalization are conducted at Edge System (X)	
537	IBM-103-10	CDO-CDO NHIN Interface	1 Shall	Transmit the matching and normalized data along with any appropriate metadata (e.g., limited patient demographics) to appropriate public health agencies	Data Transaction-(Push)	Core	Bio	IBM-102-10		Exact duplicate	
713	IBM-211-06	Consumer System-PHR	1 Shall	Follow data encryption standards governed by HITSP	Data Transaction-(Push)	Core	Infrastructure			Seems to belong under Security	

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140	ACN-06.1.3	Data Analysis and Secondary Use Systems	1 Shall	Receive anonymized health data from participating edge systems.	Data Transaction-(Push)	Core	Bio	IBM-102-11 IBM-103-11 ACN-05.1.1.1 NGIT-159 CSC-BIO-560 ACN-06.1.12 ACN-06.1.13	E	Definition needed for "anonymize" in light of using PHI in accordance with HIPAA requirements	
137	ACN-06.1.12	Data Analysis and Secondary Use Systems-Public Health	1 Shall	Transmit aggregated anonymized data to public health systems within 24 hours of generation.	Data Transaction-(Push)	Core	Bio	IBM-102-11 IBM-103-11 ACN-05.1.1.1 NGIT-159 CSC-BIO-560 ACN-06.1.3 ACN-06.1.13	E	Seems that 24 hour specification is policy	FHA
138	ACN-06.1.13	Data Analysis and Secondary Use Systems-Public Health	1 Shall	Transmit aggregated anonymized data to public health systems in formats defined by the public health agencies.	Data Transaction-(Push)	Core	Bio	IBM-102-11 IBM-103-11 ACN-05.1.1.1 NGIT-159 CSC-BIO-560 ACN-06.1.3 ACN-06-1.12	E		
558	IBM-106-03	Data Analysis and Secondary Use Systems-Public Health	1 Shall	Communicate directly to care givers via secure NHIN messaging to provide updates and instructions to monitor a previously detected event	Data Transaction-(Push)	Core	Biosurveillance	IBM-104-02 NGIT-076 CSC-BIO-580 CSC-BIO-550 IBM-106-01 NGIT-159	E		
610	IBM-205-17	Repositories	1 Shall	Transmit data according to HITSP standards	Data Transaction-(Push)	Core	Infrastructure	IBM-207-17 IBM-207-16		See Data Content	
793	IBM-304-27	RLS	1 Shall	Conform to approved, vocabulary, structure, privacy, security and messaging standards as provided by HITSP when transmitting patient data.	Data Transaction-(Push)	Core	EHR - Lab			See Data Content	
794	IBM-305-01	RLS	1 Shall	Receive new lab result event (file) location information and related information from lab data repository	Data Transaction-(Push)	Core	EHR - Lab	IBM-209-10 ACN-06.1.1 IBM-311-01 NGIT-135 IBM-304-01 CSC-EHR-370 CSC-ALL-380 NGIT-121 NGIT-126 NGIT-127	E	Raised to generic level and combined with related functions	

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801	IBM-305-08	RLS	1 Shall	Automatically send notification of new lab test result event availability to clinicians EHR or web application (local or remote marketplace) if appropriate according to sensitivity restrictions and patient consent restrictions	Data Transaction-(Push)	Core	EHR - Lab	IBM-305-09 IBM-303-04 CSC-ALL-190 IBM-207-31 IBM-304-11 IBM-304-18 IBM-304-19 IBM-304-20 CSC-EHR-400 CSC-ALL-380 CSC-EHR-422 NGIT-142 IBM-316-01	E	Raised to generic level and combined with related functions	
802	IBM-305-09	RLS	1 Shall	Automatically send notification of new lab test result event availability to clinicians EHR or web application dependent on provider preferences to receive or not receive notification of new lab result events automatically and specifications of lab order message	Data Transaction-(Push)	Core	EHR - Lab	IBM-305-08 IBM-303-04 CSC-ALL-190 IBM-207-31 IBM-304-11 IBM-304-18 IBM-304-19 IBM-304-20 CSC-EHR-400 CSC-ALL-380 CSC-EHR-422 NGIT-142 IBM-316-01	E	Combined	
329	CSC-ALL-400	All Edge Systems (CSC)	1 Shall	Use the NHIN Interface as the intermediary for the distribution of messages to entities in other SNOs.	Data Transaction-(Push)	Edge	Infrastructure	IBM-102-10 ACN-02.3.12 CSC-ALL-300 CSC-ALL-430 CSC-EHR-420	N	Seems to describe a specific type of architecture	
675	IBM-209-10	CDO	1 Shall	Receive registration/medication history to view via web portal	Data Transaction-(Push)	Edge	CE - Consumer	ACN-06.11 IBM-311-01	E	Raised to generic level and combined with related functions	
134	ACN-06.1.1	CDO-CDO NHIN Interface	1 Shall	Receive health data from participating edge systems.	Data Transaction-(Push)	Edge	Bio	IBM-209-10 IBM-305-01 IBM-311-01 NGIT-135 IBM-304-01 CSC-EHR-370 CSC-ALL-380 NGIT-121 NGIT-126 NGIT-127	E	Combined	

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916	IBM-311-01	CDO-EMR	1 Shall	Automatically Receive new lab test results into EHR as ordering clinician or provider of care	Data Transaction-(Push)	Edge	EHR - Lab	IBM-209-10 ACN-06.1.1 IBM-209-10 NGIT-135 IBM-304-01 CSC-EHR-370 CSC-ALL-380 NGIT-121 NGIT-126 NGIT-127	E	Combined	
945	IBM-316-01	CDO-EMR	1 Shall	Send new, updated or canceled lab test orders to lab	Data Transaction-(Push)	Edge	EHR - Lab	IBM-305-08 IBM-303-04 CSC-ALL-190 IBM-207-31 IBM-304-11 IBM-304-18 IBM-304-19 IBM-304-20 CSC-EHR-400 CSC-ALL-380 CSC-EHR-422 NGIT-142	E		
951	IBM-316-07	CDO-EMR	1 Shall	Conform to approved, vocabulary, structure, privacy, security and messaging standards as provided by HITSP when transmitting patient data	Data Transaction-(Push)	Edge	EHR - Lab			See Data Content	
762	IBM-303-04	CDO-LIS	1 Shall	Securely transmit lab result messages to the data repository of the storing entity (if another entity maintains lab data for storage and retrieval for the performing lab for the purposes of the NHIN, the performing lab)	Data Transaction-(Push)	Edge	EHR - Lab			Seems to describe a specific type of architecture	
310	CSC-ALL-190	CDO-Registration	1 Shall	Push patient demographic identifying information and updates to the Record Locator Service.	Data Transaction-(Push)	Edge	Infrastructure	IBM-305-08 IBM-303-04 IBM-316-01 IBM-207-31 IBM-304-11 IBM-304-18 IBM-304-19 IBM-304-20 CSC-EHR-400 CSC-ALL-380 CSC-EHR-422 NGIT-142	E	Raised to generic level and combined with related functions	

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651	IBM-207-31	Consumer System-PHR	1 Shall	Transmit consumer modified registration and medication history data to the PHR	Data Transaction-(Push)	Edge	CE - Consumer	IBM-305-08 IBM-303-04 IBM-316-01 CSC-ALL-190 IBM-304-11 IBM-304-18 IBM-304-19 IBM-304-20 CSC-EHR-400 CSC-ALL-380 CSC-EHR-422 NGIT-142	E	Combined	
653	IBM-207-33	Consumer System-PHR	1 Shall	Transmit data according to HITSP standards	Data Transaction-(Push)	Edge	CE - Consumer	IBM-207-32		See Data Content	
674	IBM-209-09	Consumer System-PHR	1 Shall	Provide appropriate PHR data in HITSP approved format - CDA compliant - when viewing directly from PHR system/web portal	Data Transaction-(Push)	Edge	CE - Consumer			See Data Content	
710	IBM-211-03	Consumer System-PHR	1 Shall	Export PHR data in a standardized format	Data Transaction-(Push)	Edge	CE - Consumer			See Data Content	
544	IBM-104-02	Data Analysis and Secondary Use Systems-Public Health	1 Shall	Send biosurveillance participating Care Delivery Organizations a list of essential data that must be transmitted to Public Health Agencies. The notification will include the trigger to send the data, the timeframe for sending, and data to be sent.	Data Transaction-(Push)	Edge	Biosurveillance	NGIT-076 CSC-BIO-580 CSC-BIO-550 IBM-106-01	E	See Data Content	
557	IBM-106-02	Data Analysis and Secondary Use Systems-Public Health	1 Shall	Update algorithms to track the confirmed number, location and rate of spread to monitor a previously detected event	Data Transaction-(Push)	Edge	Biosurveillance		X		
560	IBM-106-05	Data Analysis and Secondary Use Systems-Public Health	1 Shall	Communicate approved PH updates and alerts to the public media via secure NHIN messaging to monitor a previously detected event	Data Transaction-(Push)	Edge	Biosurveillance	IBM-106-06 IBM-107-01 NGIT-160 IBM-106-03	E	Raised to generic level and combined with related functions	FHA
561	IBM-106-06	Data Analysis and Secondary Use Systems-Public Health	1 Shall	Communicate approved PH updates and alerts to neighboring communities via secure NHIN messaging to monitor a previously detected event	Data Transaction-(Push)	Edge	Biosurveillance	IBM-106-05 IBM-107-01 NGIT-160 IBM-106-03	E	Combined	
567	IBM-107-01	Data Analysis and Secondary Use Systems-Public Health	1 Shall	Publish biosurveillance event response 'broadcast" messages to authorized biosurveillance responders who have subscribed to receive the broadcast messages to support event response	Data Transaction-(Push)	Edge	Biosurveillance	IBM-106-06 IBM-106-05 NGIT-160 IBM-106-03	E	Combined	

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1112	NGIT-135	Health Information Intermediaries	1 Shall	Receive and process well formed laboratory test results according to HITSP specified standards and implementation instructions	Data Transaction-(Push)	Edge	EHR - Lab	IBM-209-10 ACN-06.1.1 IBM-209-10 IBM-311-01 IBM-304-01 CSC-EHR-370 CSC-ALL-380 NGIT-121 NGIT-126 NGIT-127	E	Combined; see also Data Content	
1135	NGIT-160	Health Information Intermediaries	1 Shall	Transmit data to support public health biosurveillance	Data Transaction-(Push)	Edge	Bio	IBM-106-06 IBM-107-01 IBM-106-05 IBM-106-03	E	Combined	
38	ACN-02.3.12	Message Handling	1 Shall	Send the requested patient data to the provider at the requesting edge system.	Data Transaction-(Push)	Edge	CE, EHR	IBM-102-10 ACN-02.3.12 CSC-ALL-300 CSC-ALL-430 CSC-ALL-400 CSC-EHR-420	N		
700	IBM-209-36	Repositories	1 Shall	Transmit data according to HITSP standards	Data Transaction-(Push)	Edge	CE - Consumer	IBM-205-16 IBM-209-35		See Data Content	
767	IBM-304-01	Repositories	1 Shall	Receive new lab test result event messages from the performing lab as well as information necessary for indexing	Data Transaction-(Push)	Edge	EHR - Lab	IBM-209-10 ACN-06.1.1 IBM-209-10 IBM-311-01 NGIT-135 CSC-EHR-370 CSC-ALL-380 NGIT-121 NGIT-126 NGIT-127	E	Combined	
777	IBM-304-11	Repositories	1 Shall	Securely send lab result event location and related information to locator service	Data Transaction-(Push)	Edge	EHR - Lab	IBM-305-08 IBM-303-04 IBM-316-01 CSC-ALL-190 IBM-207-31 IBM-304-18 IBM-304-19 IBM-304-20 CSC-EHR-400 CSC-ALL-380 CSC-EHR-422 NGIT-142	E	Combined	

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784	IBM-304-18	Repositories	1 Shall	Automatically transmit lab test results to EHR of ordering provider (in local or remote marketplace)	Data Transaction-(Push)	Edge	EHR - Lab	IBM-304-21 IBM-305-08 IBM-303-04 IBM-316-01 CSC-ALL-190 IBM-207-31 IBM-304-11 IBM-304-19 IBM-304-20 CSC-EHR-400 CSC-ALL-380 CSC-EHR-422 NGIT-142	E	Combined	
785	IBM-304-19	Repositories	1 Shall	Automatically transmit lab test results to EHR of other providers of care who are not ordering clinician (local or remote marketplace) if appropriate according to sensitivity restrictions and patient consent restrictions	Data Transaction-(Push)	Edge	EHR - Lab	IBM-304-22 IBM-305-08 IBM-303-04 IBM-316-01 CSC-ALL-190 IBM-207-31 IBM-304-11 IBM-304-18 IBM-304-20 CSC-EHR-400 CSC-ALL-380 CSC-EHR-422 NGIT-142	E	Combined	
786	IBM-304-20	Repositories	1 Shall	Transmit lab test results to providers (in local or remote marketplace) in real time as received from performing lab	Data Transaction-(Push)	Edge	EHR - Lab	IBM-305-08 IBM-303-04 IBM-316-01 CSC-ALL-190 IBM-207-31 IBM-304-11 IBM-304-18 IBM-304-19 CSC-EHR-400 CSC-ALL-380 CSC-EHR-422 NGIT-142	E	Combined; relates to policy	
789	IBM-304-23	Repositories	1 Shall	Adhere to approved content standards as provided by HITSP when sending lab results data to clinician.	Data Transaction-(Push)	Edge	EHR - Lab			See Data Content	
791	IBM-304-25	Repositories	1 Shall	Conform to approved, vocabulary, structure, privacy, security and messaging standards as provided by HITSP when transmitting patient data.	Data Transaction-(Push)	Edge	EHR - Lab			See Data Content	
944	IBM-315-02	Repositories	1 Shall	Transmit minimum data set in standard messaging format and standard vocabulary as recommended by HITSP or as determined by the marketplace if no	Data Transaction-(Push)	Edge	EHR - Lab			See Data Content	

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434	CSC-EHR-370	CDO	2 Should	Receive Lab Results pushed to them, acknowledge receipt, and validate their format.	Data Transaction-(Push)	Edge	EHR - Lab	IBM-209-10 ACN-06.1.1 IBM-209-10 IBM-311-01 NGIT-135 IBM-304-01 CSC-ALL-380 NGIT-121 NGIT-126 NGIT-127	E	Combined	
438	CSC-EHR-400	CDO	2 Should	Push patient demographic identifying information and updates and record locations to the Record Locator Service, if they are not already the same system.	Data Transaction-(Push)	Edge	EHR - Lab	IBM-305-08 IBM-303-04 IBM-316-01 CSC-ALL-190 IBM-207-31 IBM-304-11 IBM-304-18 IBM-304-19 IBM-304-20 CSC-ALL-380 CSC-EHR-422 NGIT-142	E	Combined	
943	IBM-315-01	Repositories	2 Should	Transmit all data in standard messaging format using standard vocabulary as recommended by HITSP or as determined by the marketplace if no standards exist	Data Transaction-(Push)	Edge	EHR - Lab			See Data Content	
326	CSC-ALL-380	All Edge Systems (CSC)	May	Exchange messages with any other edge entity	Data Transaction-(Push)	Edge	Infrastructure	See #4 and #5	E	Combined	
327	CSC-ALL-390	All Edge Systems (CSC)	May	Use the NHIN Interface as the intermediary for the distribution of messages to other entities within the SNO.	Data Transaction-(Push)	Edge	Infrastructure	CSC-ALL-400		Exact duplicate	
440	CSC-EHR-420	CDO	May	Send Notification messages and/or Lab results to specified organizations	Data Transaction-(Push)	Edge	EHR - Lab	IBM-102-10 ACN-02.3.12 CSC-ALL-300 CSC-ALL-400 CSC-ALL-430	N	Combined	
580	IBM-107-14	CDO	May	Receive patient specific biosurveillance event response information message from Public Health to support event response	Data Transaction-(Push)	Edge	Bio	NGIT-077 IBM-107-13	E	Combined	
1100	NGIT-121	CDO-EMR	May	Receive and process well formed laboratory test results according to HITSP specified standards and implementation instructions	Data Transaction-(Push)	Edge	EHR - Lab	IBM-209-10 ACN-06.1.1 IBM-209-10 IBM-311-01 NGIT-135 IBM-304-01 CSC-EHR-370 CSC-ALL-380 NGIT-126 NGIT-127	E	Combined	

Analysis performed by Margret Amatayakul

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1105	NGIT-126	CDO-EMR	May	Receive notification of new test results	Data Transaction-(Push)	Edge	EHR - Lab	IBM-306-01 IBM-209-10 ACN-06.1.1 IBM-209-10 IBM-311-01 NGIT-135 IBM-304-01 CSC-EHR-370 CSC-ALL-380 NGIT-121 NGIT-127	E	Combined	
441	CSC-EHR-422	CDO-LIS	May	Send Notification messages and/or Lab results to specified organizations	Data Transaction-(Push)	Edge	EHR - Lab	IBM-305-08 IBM-303-04 IBM-316-01 CSC-ALL-190 IBM-207-31 IBM-304-11 IBM-304-18 IBM-304-19 IBM-304-20 CSC-ALL-380 CSC-EHR-400 NGIT-142	E	Combined	
1119	NGIT-142	CDO-LIS--Reference lab	May	Transmit well formed result notification message according to HITSP specified standards and implementation instructions	Data Transaction-(Push)	Edge	EHR - Lab	IBM-305-08 IBM-303-04 IBM-316-01 CSC-ALL-190 IBM-207-31 IBM-304-11 IBM-304-18 IBM-304-19 IBM-304-20 CSC-ALL-380 CSC-EHR-400 CSC-EHR-422	E	Combined	
659	IBM-207-39	Consumer System-PHR	May	Receive request from consumer to transfer registration and medication history to another PHR when closing initial PHR	Data Transaction-(Push)	Edge	CE - Consumer	NGIT-099 IBM-211-02	E	Combined	
709	IBM-211-02	Consumer System-PHR	May	Transfer registration and medication history data to a different provider of services	Data Transaction-(Push)	Edge	CE - Consumer	NGIT-099 IBM-207-39	E	Combined	
577	IBM-107-11	Data Analysis and Secondary Use Systems-Public Health	May	Provide capability for secure, instant text or audio messaging or video conferencing between Public Health and authorized Responder to support event response	Data Transaction-(Push)	Edge	Biosurveillance	IBM-107-12	E	Combined	

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579	IBM-107-13	Data Analysis and Secondary Use Systems-Public Health	May	Send patient-specific biosurveillance event response information messages to patient's provider according to authorized provider's specification (secure email, web application, EHR, etc) to support event response	Data Transaction-(Push)	Edge	Biosurveillance	NGIT-077 IBM-107-14	E	Combined	
1106	NGIT-127	External User interfaces	May	Receive notification of new test results	Data Transaction-(Push)	Edge	EHR - Lab	IBM-306-02 IBM-209-10 ACN-06.1.1 IBM-209-10 IBM-311-01 NGIT-135 IBM-304-01 CSC-EHR-370 CSC-ALL-380 NGIT-121 NGIT-126	E	Combined	
578	IBM-107-12	NHIN Administration-Biosurveillance Responder System (IBM)	May	Provide capability for secure, instant text or audio messaging or video conferencing between Public Health and authorized Responder to support event response	Data Transaction-(Push)	Edge	Biosurveillance	IBM-107-11		Exact duplicate	
1134	NGIT-159	Payer Systems	May	Transmit data to support public health biosurveillance	Data Transaction-(Push)	Edge	Bio	IBM-104-02 NGIT-076 CSC-BIO-580 CSC-BIO-550 IBM-106-01	E	Combined	
350	CSC-ALL-80	CDO-CDO NHIN Interface	1 Shall	Log all interactions.	Data Transaction-Audit & Logging	Core	Infrastructure	IBM-102-14 NGIT-011 ACN-02.2.2 ACN-02.2.1	N	Combined	
479	CSC-SEC-120	CDO-CDO NHIN Interface	1 Shall	Protect audit data from unauthorized access/modification	Data Transaction-Audit & Logging	Core	Infrastructure	IBM-319-42 IBM-319-48	N	Combined	
526	IBM-102-14	CDO-CDO NHIN Interface	1 Shall	Log Interaction between organization and PH AGENCY	Data Transaction-Audit & Logging	Core	Bio	CSC-ALL-80 NGIT-011 ACN-02.2.2 ACN-02.2.1	N	Combined	
1037	NGIT-011	CDO-CDO NHIN Interface	1 Shall	Maintain history of network transactions	Data Transaction-Audit & Logging	Core	Infrastructure	ACN-07.16.9 IBM-319-45 IBM-319-33	N	Combined	
1009	IBM-319-36	CDO-LIS	1 Shall	Create audit entry for each transaction	Data Transaction-Audit & Logging	Core	EHR - Lab		X		
1011	IBM-319-38	CDO-LIS	1 Shall	Include audit content as recommended by HITSP standards or as determined by the marketplace if no standards are available	Data Transaction-Audit & Logging	Core	EHR - Lab		N	See also Data Content	
1013	IBM-319-40	CDO-LIS	1 Shall	Format audit content as recommended by HITSP standards or as determined by the marketplace if no standards are available	Data Transaction-Audit & Logging	Core	EHR - Lab		N	See also Data Content	

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1015	IBM-319-42	CDO-LIS	1 Shall	Not allow edits to audit entries	Data Transaction-Audit & Logging	Core	EHR - Lab	CSC-SEC-120 IBM-319-48	N	Combined	
1017	IBM-319-44	CDO-LIS	1 Shall	Store audit entry for amount of time determined by law, accrediting agencies, marketplace and entity	Data Transaction-Audit & Logging	Core	EHR - Lab		X		
1019	IBM-319-46	CDO-LIS	1 Shall	Provide capability to print audit trail	Data Transaction-Audit & Logging	Core	EHR - Lab		X		
1021	IBM-319-48	CDO-LIS	1 Shall	Display audit trail only to those authorized to view the audit trail	Data Transaction-Audit & Logging	Core	EHR - Lab	IBM-319-42 IBM-319-48 CSC-SEC-120	N	Combined	
30	ACN-02.2.1	NHIN Administration-Audit Trail	1 Shall	Log requests for patient data.	Data Transaction-Audit & Logging	Core	CE, EHR	IBM-102-14 NGIT-011 ACN-02.2.2 CSC-ALL-80	N	Combined	
32	ACN-02.2.3	NHIN Administration-Audit Trail	1 Shall	Notify the requesting edge system that it received the request for patient data.	Data Transaction-Audit & Logging	Core	CE, EHR	ACN-02.2.4 ACN-2.11 ACN-02.3.2 ACN-02.3.4 ACN-02.3.5 ACN-2.3.6 ACN-02.3.8	N	Combined. See also Data Quality/Integrity	
33	ACN-02.2.4	NHIN Administration-Audit Trail	1 Shall	Log notifications.	Data Transaction-Audit & Logging	Core	CE, EHR	ACN-02.2.4 ACN-2.11 ACN-02.3.2 ACN-02.3.4 ACN-02.3.5 ACN-2.3.6 ACN-02.3.8	N	Combined	
37	ACN-02.3.11	NHIN Administration-Audit Trail	1 Shall	Log notifications sent to the requesting systems about requests being processed.	Data Transaction-Audit & Logging	Core	CE, EHR	ACN-02.2.4 ACN-2.11 ACN-02.3.2 ACN-02.3.4 ACN-02.3.5 ACN-2.3.6 ACN-02.3.8	N	Combined	
42	ACN-02.3.2	NHIN Administration-Audit Trail	1 Shall	Log the notification sent to the user.	Data Transaction-Audit & Logging	Core	CE, EHR	ACN-02.2.4 ACN-2.11 ACN-02.3.4 ACN-02.3.5 ACN-2.3.6 ACN-02.3.8	N	Combined	
44	ACN-02.3.4	NHIN Administration-Audit Trail	1 Shall	Log requests sent to identified systems.	Data Transaction-Audit & Logging	Core	CE, EHR	ACN-02.2.4 ACN-2.11 ACN-02.3.4 ACN-02.3.5 ACN-2.3.6 ACN-02.3.8	N	Combined	

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45	ACN-02.3.5	NHIN Administration-Audit Trail	1 Shall	Receive confirmation from an edge system that it received the request for patient data.	Data Transaction-Audit & Logging	Core	CE, EHR	ACN-02.2.4 ACN-2.11 ACN-02.3.4 ACN-02.3.5 ACN-2.3.6 ACN-02.3.8	N	Combined	
46	ACN-02.3.6	NHIN Administration-Audit Trail	1 Shall	Log confirmations from edge systems.	Data Transaction-Audit & Logging	Core	CE, EHR	ACN-02.2.4 ACN-2.11 ACN-02.3.4 ACN-02.3.5 ACN-2.3.6 ACN-02.3.8	N	Combined	
48	ACN-02.3.8	NHIN Administration-Audit Trail	1 Shall	Log timeout notifications sent to the user.	Data Transaction-Audit & Logging	Core	CE, EHR	ACN-02.2.4 ACN-2.11 ACN-02.3.4 ACN-02.3.5 ACN-2.3.6 ACN-02.3.8	N	Combined	
50	ACN-02.4	NHIN Administration-Audit Trail	1 Shall	Generate administrative reports.	Data Transaction-Audit & Logging	Core	Infrastructure	ACN-02.4.1	N	Combined	
51	ACN-02.4.1	NHIN Administration-Audit Trail	1 Shall	Generate system monitoring reports.	Data Transaction-Audit & Logging	Core	Infrastructure	ACN-02.4	N	Combined	
53	ACN-02.4.3	NHIN Administration-Audit Trail	1 Shall	Generate alerts/notifications for activity outside the normal range of monitoring levels.	Data Transaction-Audit & Logging	Core	Biosurveillance	ACN-07.16.14 ACN-07.16.15	N	Combined	FHA
198	ACN-07.16.1	NHIN Administration-Audit Trail	1 Shall	Log all relevant infrastructure level authentication attempts.	Data Transaction-Audit & Logging	Core	Infrastructure		N		
199	ACN-07.16.10	NHIN Administration-Audit Trail	1 Shall	Log all configuration changes.	Data Transaction-Audit & Logging	Core	Infrastructure		N		
200	ACN-07.16.11	NHIN Administration-Audit Trail	1 Shall	Log all modifications to consent status (for data sharing).	Data Transaction-Audit & Logging	Core	Infrastructure		N	Suggest defining "consent" in this context or using another term in order to distinguish from the "consent" permitted but not required by HIPAA (§ 164.506(b))	
201	ACN-07.16.12	NHIN Administration-Audit Trail	1 Shall	Consolidate logs from NHIN systems in a central repository.	Data Transaction-Audit & Logging	Core	Infrastructure		N		
203	ACN-07.16.14	NHIN Administration-Audit Trail	1 Shall	Allow thresholds to be set to determine activities requiring further investigation.	Data Transaction-Audit & Logging	Core	Infrastructure	ACN-02.4.3 ACN-07.16.14	N	Combined	

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204	ACN-07.16.15	NHIN Administration-Audit Trail	1 Shall	Generate notifications based on anomalous system activity.	Data Transaction-Audit & Logging	Core	Infrastructure	ACN-02.4.3 ACN-07.16.14	N	Combined	
205	ACN-07.16.16	NHIN Administration-Audit Trail	1 Shall	Generate evidence to support incident management and response processes.	Data Transaction-Audit & Logging	Core	Infrastructure		N		FHA
206	ACN-07.16.2	NHIN Administration-Audit Trail	1 Shall	Log all relevant system level authentication attempts.	Data Transaction-Audit & Logging	Core	Infrastructure		E		
207	ACN-07.16.3	NHIN Administration-Audit Trail	1 Shall	Log all relevant application level authentication attempts.	Data Transaction-Audit & Logging	Core	Infrastructure		X		
209	ACN-07.16.5	NHIN Administration-Audit Trail	1 Shall	Log all relevant system level access events.	Data Transaction-Audit & Logging	Core	Infrastructure	ACN-07.16.4	E		
210	ACN-07.16.6	NHIN Administration-Audit Trail	1 Shall	Log all relevant application level access events.	Data Transaction-Audit & Logging	Core	Infrastructure		X		
211	ACN-07.16.7	NHIN Administration-Audit Trail	1 Shall	Log all relevant user management events.	Data Transaction-Audit & Logging	Core	Infrastructure	ACN-07.16.8	N	Combined	
212	ACN-07.16.8	NHIN Administration-Audit Trail	1 Shall	Log details necessary to support investigations and corrective action.	Data Transaction-Audit & Logging	Core	Infrastructure	ACN-07.16.7	N	Combined	
213	ACN-07.16.9	NHIN Administration-Audit Trail	1 Shall	Retain logs for a period of time as defined in the retention standard.	Data Transaction-Audit & Logging	Core	Infrastructure		N		
657	IBM-207-37	NHIN Administration-Audit Trail	1 Shall	Create an audit log for updated data fields	Data Transaction-Audit & Logging	Core	Infrastructure	IBM-102-14 NGIT-011 ACN-02.2.2 ACN-02.2.1	N	Combined	
716	IBM-211-09	NHIN Administration-Audit Trail	1 Shall	Log interaction	Data Transaction-Audit & Logging	Core	Infrastructure	IBM-205-24 IBM-207-24 IBM-209-41	N	Combined	
1010	IBM-319-37	NHIN Administration-Data Stager (IBM)	1 Shall	Create audit entry for each transaction	Data Transaction-Audit & Logging	Core	EHR - Lab	IBM-102-14 NGIT-011 ACN-02.2.2 ACN-02.2.1	N	Combined	
1012	IBM-319-39	NHIN Administration-Data Stager (IBM)	1 Shall	Include audit content as recommended by HITSP standards or as determined by the marketplace if no standards are available	Data Transaction-Audit & Logging	Core	EHR - Lab			See Data Content	
1014	IBM-319-41	NHIN Administration-Data Stager (IBM)	1 Shall	Format audit content as recommended by HITSP standards or as determined by the marketplace if no standards are available	Data Transaction-Audit & Logging	Core	EHR - Lab			See Data Content	

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1016	IBM-319-43	NHIN Administration-Data Stager (IBM)	1 Shall	Not allow edits to audit entries	Data Transaction-Audit & Logging	Core	EHR - Lab	IBM-319-42 IBM-319-48	N	Combined	
1018	IBM-319-45	NHIN Administration-Data Stager (IBM)	1 Shall	Store audit entry for amount of time determined by law, accrediting agencies, marketplace and entity	Data Transaction-Audit & Logging	Core	EHR - Lab		N	Combined	
1020	IBM-319-47	NHIN Administration-Data Stager (IBM)	1 Shall	Provide capability to print audit trail	Data Transaction-Audit & Logging	Core	EHR - Lab	IBM-319-46		Exact duplicate	
1022	IBM-319-49	NHIN Administration-Data Stager (IBM)	1 Shall	Display audit trail only to those authorized to view the audit trail	Data Transaction-Audit & Logging	Core	EHR - Lab	IBM-319-42 IBM-319-48	N	Combined	
197	ACN-07.16	NHIN Overarching (ACN)	1 Shall	Log system and user interactions.	Data Transaction-Audit & Logging	Core	Infrastructure	IBM-102-14 NGIT-011 ACN-02.2.2 ACN-02.2.1	N	Combined	
272	ACN-07.24	NHIN Overarching (ACN)	1 Shall	Conduct regular risk assessments.	Data Transaction-Audit & Logging	Core	Infrastructure		N		
1110	NGIT-131	Portal NHIN Interface (NGIT)	1 Shall	Maintain a log of interactions with external data systems	Data Transaction-Audit & Logging	Core	EHR - Lab		X		
806	IBM-305-13	RLS	1 Shall	Log notifications of new lab result events availability sent to clinicians	Data Transaction-Audit & Logging	Core	EHR - Lab	IBM-102-14 NGIT-011 ACN-02.2.2 ACN-02.2.1	N	Combined	
848	IBM-307-28	RLS	1 Shall	Log interaction with remote marketplace	Data Transaction-Audit & Logging	Core	EHR - Lab	CSC-ALL-310	N	Combined	
1002	IBM-319-29	RLS	1 Shall	Create audit entry for each transaction	Data Transaction-Audit & Logging	Core	EHR - Lab	IBM-102-14 NGIT-011 ACN-02.2.2 ACN-02.2.1	N	Combined	
1003	IBM-319-30	RLS	1 Shall	Include audit content as recommended by HITSP standards or as determined by the marketplace if no standards are available	Data Transaction-Audit & Logging	Core	EHR - Lab			See Data Content	
1004	IBM-319-31	RLS	1 Shall	Format audit content as recommended by HITSP standards or as determined by the marketplace if no standards are available	Data Transaction-Audit & Logging	Core	EHR - Lab			See Data Content	
1005	IBM-319-32	RLS	1 Shall	Not allow edits to audit entries	Data Transaction-Audit & Logging	Core	EHR - Lab	IBM-319-42 IBM-319-48	N	Combined	
1006	IBM-319-33	RLS	1 Shall	Store audit entry for amount of time determined by law, accrediting agencies, marketplace and entity	Data Transaction-Audit & Logging	Core	EHR - Lab		N	Combined	

Analysis performed by Margret Amatayakul

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1007	IBM-319-34	RLS	1 Shall	Provide capability to print audit trail	Data Transaction-Audit & Logging	Core	EHR - Lab	IBM-319-46		Exact duplicate	
1008	IBM-319-35	RLS	1 Shall	Display audit trail only to those authorized to view the audit trail	Data Transaction-Audit & Logging	Core	EHR - Lab	IBM-319-48		Exact duplicate	
1121	NGIT-146	RLS	1 Shall	Maintain log of updates to patient-record locator index	Data Transaction-Audit & Logging	Core	Infrastructure		N		
1065	NGIT-080	NHIN Administration-Audit Trail	May	Maintain log of transactions between data suppliers and receivers	Data Transaction-Audit & Logging	Core	Bio	IBM-102-14 NGIT-011 ACN-02.2.2 CSC-ALL-80	N	Combined	
541	IBM-103-14	CDO-CDO NHIN Interface		Log Interaction between organization and PH AGENCY	Data Transaction-Audit & Logging	Core	Bio	IBM-102-14 NGIT-011 ACN-02.2.2 CSC-ALL-80	N	Combined	
410	CSC-CE-640	All Edge Systems (CSC)	1 Shall	Log all account and account data accesses	Data Transaction-Audit & Logging	Edge	CE - Consumer		E	Equivalent of N	
478	CSC-SEC-110	All Edge Systems (CSC)	1 Shall	Protect audit data and other logged protected health information from unauthorized access and from any modification	Data Transaction-Audit & Logging	Edge	Infrastructure		E	Equivalent of N	
499	CSC-SEC-90	All Edge Systems (CSC)	1 Shall	Create an audit trail with sufficient information to trace each operation back to the originator, with the ability to audit according to requirements and local policy.	Data Transaction-Audit & Logging	Edge	Infrastructure		E	Equivalent of N	
214	ACN-07.17	CDO	1 Shall	Log system and user interactions.	Data Transaction-Audit & Logging	Edge	Infrastructure		E	Equivalent of N	
273	ACN-07.25	CDO	1 Shall	Conduct regular risk assessments.	Data Transaction-Audit & Logging	Edge	Infrastructure		E	Equivalent of N	
974	IBM-319-01	CDO	1 Shall	Create audit entry for each transaction	Data Transaction-Audit & Logging	Edge	EHR - Lab		E	Equivalent of N	
975	IBM-319-02	CDO	1 Shall	Include audit content as recommended by HITSP standards or as determined by the marketplace if no standards are available	Data Transaction-Audit & Logging	Edge	EHR - Lab			See Data Content	
976	IBM-319-03	CDO	1 Shall	Format audit content as recommended by HITSP standards or as determined by the marketplace if no standards are available	Data Transaction-Audit & Logging	Edge	EHR - Lab			See Data Content	
977	IBM-319-04	CDO	1 Shall	Not allow edits to audit entries	Data Transaction-Audit & Logging	Edge	EHR - Lab		E	Equivalent of N	
978	IBM-319-05	CDO	1 Shall	Store audit entry for amount of time determined by law, accrediting agencies, marketplace and entity	Data Transaction-Audit & Logging	Edge	EHR - Lab		E	Equivalent of N	
979	IBM-319-06	CDO	1 Shall	Provide capability to print audit trail	Data Transaction-Audit & Logging	Edge	EHR - Lab		X		
980	IBM-319-07	CDO	1 Shall	Display audit trail only to those authorized to view the audit trail	Data Transaction-Audit & Logging	Edge	EHR - Lab		E	Equivalent of N	
872	IBM-307-52	CDO-EMR	1 Shall	Log location request interaction with locator service	Data Transaction-Audit & Logging	Edge	EHR - Lab		E	Equivalent of N	

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923	IBM-311-08	CDO-EMR	1 Shall	Log receipt of lab test results	Data Transaction-Audit & Logging	Edge	EHR - Lab		E	Equivalent of N	
955	IBM-316-11	CDO-EMR	1 Shall	Log lab order interaction with lab	Data Transaction-Audit & Logging	Edge	EHR - Lab		E	Equivalent of N	
1089	NGIT-107	CDO-EMR	1 Shall	Log interactions of system receiving data from external (PHR) sources	Data Transaction-Audit & Logging	Edge	CE - Consumer		E	Equivalent of N	
1093	NGIT-113	CDO-EMR	1 Shall	Create an exception list when lab results can not be unequivocally be matched to an order/patient/etc.	Data Transaction-Audit & Logging	Edge	EHR - Lab	IBM-311-09 IBM-209-38	E		
1102	NGIT-123	CDO-EMR	1 Shall	Acknowledge receipt of lab result data	Data Transaction-Audit & Logging	Edge	EHR - Lab	IBM-311-07 IBM-102-15		See Data Quality/Integrity	
1103	NGIT-124	CDO-EMR	1 Shall	Maintain a log of interactions with external data systems	Data Transaction-Audit & Logging	Edge	EHR - Lab		X		
760	IBM-303-02	CDO-LIS	1 Shall	Log creation of test results	Data Transaction-Audit & Logging	Edge	EHR - Lab		X		
766	IBM-303-08	CDO-LIS	1 Shall	Log transmission of new lab result event message to the storing entities data repository	Data Transaction-Audit & Logging	Edge	EHR - Lab		E		
1099	NGIT-120	CDO-LIS	1 Shall	Maintain log of interactions with external data systems and/or networks	Data Transaction-Audit & Logging	Edge	EHR - Lab		X		
1076	NGIT-092	Consumer System-PHR	1 Shall	Maintain log of interactions with external data systems	Data Transaction-Audit & Logging	Edge	CE - Consumer		X		
550	IBM-104-08	Data Analysis and Secondary Use Systems-Public Health	1 Shall	Log receipt of lab test results	Data Transaction-Audit & Logging	Edge	Biosurveillance		E		
551	IBM-104-09	Data Analysis and Secondary Use Systems-Public Health	1 Shall	Log storage of lab test results	Data Transaction-Audit & Logging	Edge	Biosurveillance		X		
873	IBM-307-53	External User interfaces	1 Shall	Log location request interaction with locator service	Data Transaction-Audit & Logging	Edge	EHR - Lab		E		
928	IBM-312-04	External User interfaces	1 Shall	Log interaction with data repository or data stager related to receiving results	Data Transaction-Audit & Logging	Edge	EHR - Lab		E		
988	IBM-319-15	External User interfaces	1 Shall	Create audit entry for each transaction	Data Transaction-Audit & Logging	Edge	EHR - Lab		E		
989	IBM-319-16	External User interfaces	1 Shall	Include audit content as recommended by HITSP standards or as determined by the marketplace if no standards are available	Data Transaction-Audit & Logging	Edge	EHR - Lab			See Data Content	
990	IBM-319-17	External User interfaces	1 Shall	Format audit content as recommended by HITSP standards or as determined by the marketplace if no standards are available	Data Transaction-Audit & Logging	Edge	EHR - Lab			See Data Content	
991	IBM-319-18	External User interfaces	1 Shall	Not allow edits to audit entries	Data Transaction-Audit & Logging	Edge	EHR - Lab		E		

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992	IBM-319-19	External User interfaces	1 Shall	Store audit entry for amount of time determined by law, accrediting agencies, marketplace and entity	Data Transaction-Audit & Logging	Edge	EHR - Lab		E		
993	IBM-319-20	External User interfaces	1 Shall	Provide capability to print audit trail	Data Transaction-Audit & Logging	Edge	EHR - Lab		X		
994	IBM-319-21	External User interfaces	1 Shall	Display audit trail only to those authorized to view the audit trail	Data Transaction-Audit & Logging	Edge	EHR - Lab		E		
995	IBM-319-22	External User interfaces	1 Shall	Create audit entry for each transaction	Data Transaction-Audit & Logging	Edge	EHR - Lab		E		
996	IBM-319-23	External User interfaces	1 Shall	Include audit content as recommended by HITSP standards or as determined by the marketplace if no standards are available	Data Transaction-Audit & Logging	Edge	EHR - Lab	IBM-319-16		Exact duplicate	
997	IBM-319-24	External User interfaces	1 Shall	Format audit content as recommended by HITSP standards or as determined by the marketplace if no standards are available	Data Transaction-Audit & Logging	Edge	EHR - Lab	IBM-319-17		Exact duplicate	
998	IBM-319-25	External User interfaces	1 Shall	Not allow edits to audit entries	Data Transaction-Audit & Logging	Edge	EHR - Lab	IBM-319-18		Exact duplicate	
999	IBM-319-26	External User interfaces	1 Shall	Store audit entry for amount of time determined by law, accrediting agencies, marketplace and entity	Data Transaction-Audit & Logging	Edge	EHR - Lab	IBM-319-19		Exact duplicate	
1000	IBM-319-27	External User interfaces	1 Shall	Provide capability to print audit trail	Data Transaction-Audit & Logging	Edge	EHR - Lab	IBM-319-20		Exact duplicate	
1001	IBM-319-28	External User interfaces	1 Shall	Displays audit trail only to those authorized to view the audit trail	Data Transaction-Audit & Logging	Edge	EHR - Lab	IBM-319-21		Exact duplicate	
1023	IBM-320-01	External User interfaces	1 Shall	Provide capability for easy retrieval of audit trail by patient or proxy	Data Transaction-Audit & Logging	Edge	EHR - Lab		E	Consolidated w/IBM-320-02, IBM-320-03, and IBM-320-04 Also suggest reconciling with HIPAA right to accounting for disclosuresd except for TPO (§164.528)	
1024	IBM-320-02	External User interfaces	1 Shall	Present audit trail in manner understandable to patient or proxy (as determined by law, accrediting agencies, and marketplace)	Data Transaction-Audit & Logging	Edge	EHR - Lab		E	Consolidated w/IBM-320-01, IBM-320-03, and IBM-320-04	
1025	IBM-320-03	External User interfaces	1 Shall	Provide capability for a patient or proxy to determine organizations that have shared their information	Data Transaction-Audit & Logging	Edge	EHR - Lab		E	Consolidated w/IBM-320-02, IBM-320-01, and IBM-320-04	
1026	IBM-320-04	External User interfaces	1 Shall	Provide capability for patient or proxy to determine organizations and individuals within organizations that have received their information as well as those who have requested to receive their information but were denied	Data Transaction-Audit & Logging	Edge	EHR - Lab		E	Consolidated w/IBM-320-02, IBM-320-03, and IBM-320-01	

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1114	NGIT-137	Health Information Intermediaries	1 Shall	Acknowledge receipt of lab result data	Data Transaction-Audit & Logging	Edge	EHR - Lab	IBM-102-15	E	Equivalent of N. See also Data Quality/Integrity	
1115	NGIT-138	Health Information Intermediaries	1 Shall	Maintain a log of interactions with external data systems	Data Transaction-Audit & Logging	Edge	EHR - Lab		E	Equivalent of N	
215	ACN-07.17.1	NHIN Administration-Audit Trail	1 Shall	Log all relevant infrastructure level authentication attempts.	Data Transaction-Audit & Logging	Edge	Infrastructure		E	Equivalent of N	
217	ACN-07.17.11	NHIN Administration-Audit Trail	1 Shall	Log all configuration changes.	Data Transaction-Audit & Logging	Edge	Infrastructure		E	Equivalent of N	
218	ACN-07.17.12	NHIN Administration-Audit Trail	1 Shall	Log all modifications to consent status (for data sharing).	Data Transaction-Audit & Logging	Edge	Infrastructure		E	Equivalent of N	
224	ACN-07.17.2	NHIN Administration-Audit Trail	1 Shall	Log all relevant system level authentication attempts.	Data Transaction-Audit & Logging	Edge	Infrastructure	ACN-07.16.2		Exact duplicate	
225	ACN-07.17.3	NHIN Administration-Audit Trail	1 Shall	Log all relevant application level authentication attempts.	Data Transaction-Audit & Logging	Edge	Infrastructure		X		
227	ACN-07.17.5	NHIN Administration-Audit Trail	1 Shall	Log all relevant system level access events.	Data Transaction-Audit & Logging	Edge	Infrastructure	ACN-07.17.4	E	Equivalent of N	
228	ACN-07.17.6	NHIN Administration-Audit Trail	1 Shall	Log all relevant application level access events.	Data Transaction-Audit & Logging	Edge	Infrastructure		X		
229	ACN-07.17.7	NHIN Administration-Audit Trail	1 Shall	Log all modifications to legitimate need access events.	Data Transaction-Audit & Logging	Edge	Infrastructure		E	Seems as though all modifications to access events should be logged to identify those that are not legitimate	
230	ACN-07.17.8	NHIN Administration-Audit Trail	1 Shall	Log all relevant user management events.	Data Transaction-Audit & Logging	Edge	Infrastructure		E	Equivalent of N	
231	ACN-07.17.9	NHIN Administration-Audit Trail	1 Shall	Log details necessary to support investigations and corrective action.	Data Transaction-Audit & Logging	Edge	Infrastructure		E	Equivalent of N	
463	CSC-NFR-210	NHIN Administration-Audit Trail	1 Shall	Provide easy to use interface to message history logs and support rebuilding of patient medical records at specific points in time	Data Transaction-Audit & Logging	Edge	Infrastructure		X		FHA
464	CSC-NFR-220	NHIN Administration-Audit Trail	1 Shall	Comply with legal and regulatory requirements for retention of clinical data.	Data Transaction-Audit & Logging	Edge	Infrastructure		X	Doesn't seem to relate to Audit & Logging	

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909	IBM-310-03	NHIN Administration-Data Stager (IBM)	1 Shall	Log interaction with data repository related to receiving results	Data Transaction-Audit & Logging	Edge	EHR - Lab		E	Equivalent of N	
915	IBM-310-09	NHIN Administration-Data Stager (IBM)	1 Shall	Log interaction with clinician related to transmitting results	Data Transaction-Audit & Logging	Edge	EHR - Lab		E	Equivalent of N	
776	IBM-304-10	Repositories	1 Shall	Log storage of the new lab result events in the data repository	Data Transaction-Audit & Logging	Edge	EHR - Lab		X		
781	IBM-304-15	Repositories	1 Shall	Log interaction with locator system for lab result location message	Data Transaction-Audit & Logging	Edge	EHR - Lab		E	Equivalent of N	
792	IBM-304-26	Repositories	1 Shall	Log transmission of new lab test result message to provider's EHR	Data Transaction-Audit & Logging	Edge	EHR - Lab		E	Equivalent of N	
906	IBM-309-14	Repositories	1 Shall	Log interaction with clinician or data stager related to processing requests for historical lab results	Data Transaction-Audit & Logging	Edge	EHR - Lab		E		
981	IBM-319-08	Repositories	1 Shall	Create audit entry for each transaction	Data Transaction-Audit & Logging	Edge	EHR - Lab		E	Equivalent of N	
982	IBM-319-09	Repositories	1 Shall	Include audit content as recommended by HITSP standards or as determined by the marketplace if no standards are available	Data Transaction-Audit & Logging	Edge	EHR - Lab			See Data Content	
983	IBM-319-10	Repositories	1 Shall	Format audit content as recommended by HITSP standards or as determined by the marketplace if no standards are available	Data Transaction-Audit & Logging	Edge	EHR - Lab			See Data Content	
984	IBM-319-11	Repositories	1 Shall	Not allow edits to audit entries	Data Transaction-Audit & Logging	Edge	EHR - Lab		E	Equivalent of N	
985	IBM-319-12	Repositories	1 Shall	Store audit entry for amount of time determined by law, accrediting agencies, marketplace and entity	Data Transaction-Audit & Logging	Edge	EHR - Lab		E	Equivalent of N	
986	IBM-319-13	Repositories	1 Shall	Provide Capability to print audit trail	Data Transaction-Audit & Logging	Edge	EHR - Lab		X		
987	IBM-319-14	Repositories	1 Shall	Display audit trail only to those authorized to view the audit trail	Data Transaction-Audit & Logging	Edge	EHR - Lab		E	Equivalent of N	
449	CSC-EHR-500	All Edge Systems (CSC)	2 Should	Log all interactions.	Data Transaction-Audit & Logging	Edge	EHR - Lab	CSC-SEC-85	E	Equivalent of N	
498	CSC-SEC-85	All Edge Systems (CSC)	2 Should	Log all interactions.	Data Transaction-Audit & Logging	Edge	Infrastructure	CSC-EHR-500	E	Equivalent of N	
390	CSC-BIO-570	CDO	2 Should	Log interaction between CDO systems and PH Agencie(s)	Data Transaction-Audit & Logging	Edge	Bio		E	Equivalent of N	
1104	NGIT-125	CDO-EMR	2 Should	Provide listing of lab result transactions received but not processed or loaded into EMR	Data Transaction-Audit & Logging	Edge	EHR - Lab		X		
515	IBM-102-03	CDO-CDO NHIN Interface	1 Shall	Configure environment to monitor, process and send matching patient care and any HL7 available resource utilization data	Data Transaction-Data Access and Update	Core	Bio		N	Raised to generic level (e.g., could be NCPDP message)	

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530	IBM-103-03	CDO-CDO NHIN Interface	1 Shall	Configure environment to monitor, process and send matching patient care and any HL7 available resource utilization data	Data Transaction-Data Access and Update	Core	Bio	IBM-102-03		Exact duplicate	
662	IBM-208-02	CDO-CDO NHIN Interface	1 Shall	Publish the appropriate data via the NHIN if the consumer opts in to the NHIN	Data Transaction-Data Access and Update	Core	Infrastructure		X	Seems to assume a specific policy	
312	CSC-ALL-200	RLS	1 Shall	Accept and maintain updates to patient identifying information.	Data Transaction-Data Access and Update	Core	Infrastructure		N	Seems to belong under Information Location	
401	CSC-CE-540	Consumer System-PHR	1 Shall	Accept consumer request to locate and retrieve their PHR data from another PHR	Data Transaction-Data Access and Update	Edge	CE - Consumer		E	Raised to generic level	
402	CSC-CE-550	Consumer System-PHR	1 Shall	Present information in PHR to the consumer including date and source of data	Data Transaction-Data Access and Update	Edge	CE - Consumer		X		
405	CSC-CE-580	Consumer System-PHR	1 Shall	Enable consumer to annotate non-user-modifiable data.	Data Transaction-Data Access and Update	Edge	CE - Consumer	IBM-207-27	X		
416	CSC-CE-70	Consumer System-PHR	1 Shall	Provide a secure electronic patient demographic and health history which can be accessed, viewed and updated by the consumer and shared with others at the consumer's choice	Data Transaction-Data Access and Update	Edge	CE - Consumer		X		FHA
581	IBM-201-01	Consumer System-PHR	1 Shall	Display home page of selected PHR to consumer	Data Transaction-Data Access and Update	Edge	CE - Consumer		X		
594	IBM-205-01	Consumer System-PHR	1 Shall	Allow consumer to request that PHR be pre-populated with registration and medication history data for the first time (either through the NHIN or medication transaction brokers)	Data Transaction-Data Access and Update	Edge	CE - Consumer		E	Consolidate w/IBM-207-01	
621	IBM-207-01	Consumer System-PHR	1 Shall	Request that PHR be populated with up-to-date (i.e. not initial pre-populated) registration and medication history data (either through the NHIN or medication	Data Transaction-Data Access and Update	Edge	CE - Consumer		E	Consolidate w/IBM-205-01	
661	IBM-208-01	Consumer System-PHR	1 Shall	Allow the consumer to select whether their PHR data will be available via the NHIN	Data Transaction-Data Access and Update	Edge	Infrastructure		E		
752	IBM-212-36	Consumer System-PHR	1 Shall	Adhere to the laws (federal, state, local, and business) governing how minors' records can be accessed by a third party across marketplaces	Data Transaction-Data Access and Update	Edge	CE - Consumer		E	Is adherence to law a functionality that needs to be expressly stated?	
47	ACN-02.3.7	External User interfaces	1 Shall	Notify requesting user if data exists in an identified edge system but has not been received in a timely period.	Data Transaction-Data Access and Update	Edge	CE, EHR		E		
3	ACN-01.10	Health Information Intermediaries	1 Shall	Allow payers, providers, patients and other stakeholders the ability to share information to support medical research.	Data Transaction-Data Access and Update	Edge	Infrastructure		E		

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4	ACN-01.11	Health Information Intermediaries	1 Shall	Allow payers, providers, patients and other stakeholders the ability to share information to support drug safety and post-marketing drug surveillance.	Data Transaction-Data Access and Update	Edge	Infrastructure		E		FHA
5	ACN-01.12	Health Information Intermediaries	1 Shall	Allow payers, providers, patients, and other stakeholders to improve the processes needed for clinical trial recruitment and execution.	Data Transaction-Data Access and Update	Edge	Infrastructure		E		
7	ACN-01.14	Health Information Intermediaries	1 Shall	Allow payers, providers, patients and other stakeholders the ability to share information to support public health surveillance.	Data Transaction-Data Access and Update	Edge	Infrastructure		E	Consolidated for multiple purposes	
8	ACN-01.15	Health Information Intermediaries	1 Shall	Allow payers, providers, patients and other stakeholders the ability to share information to support care management and other quality initiatives.	Data Transaction-Data Access and Update	Edge	Infrastructure		E		
16	ACN-01.9	Health Information Intermediaries	1 Shall	Allow payers, providers, patients and other stakeholders the ability to share information to support patient care.	Data Transaction-Data Access and Update	Edge	Infrastructure		E		
49	ACN-02.3.9	Message Handling	1 Shall	Wait a specified configurable time for a request to be returned.	Data Transaction-Data Access and Update	Edge	Infrastructure		X		
98	ACN-04	NHIN Administration	1 Shall	Perform core functions needed to share data in the NHIN.	Data Transaction-Data Access and Update	Edge	Infrastructure			Seems vague	
1	ACN-01	NHIN Overarching (ACN)	1 Shall	Support at least a minimum set of functionality for participants.	Data Transaction-Data Access and Update	Edge	Infrastructure			Seems vague	
753	IBM-212-37	Consumer System-PHR	2 Should	Provide Service Level Agreement to Consumer regarding availability of PHR service	Data Transaction-Data Access and Update	Edge	CE - Consumer			Out of scope	
481	CSC-SEC-140	All Edge Systems (CSC)	May	Provide a "break-the-glass" function for authorized users to bypass normal security barriers during an emergency. If implemented, this should not be accomplished by using a generic login that obscures the identity of the user.	Data Transaction-Data Access and Update	Edge	Infrastructure		E	Required by HIPAA (§164.312(a)(2)(ii)). Seems to belong under Security.	
393	CSC-CE-100	Consumer System-PHR	May	Contain the following data linked to a patient ID: demographic data; financial information sufficient for insurance elibibility checking and claims processing; basic clinical information including allergies and medication history	Data Transaction-Data Access and Update	Edge	CE - Consumer		X		
396	CSC-CE-430	Consumer System-PHR	May	Have the capability for consumers to transfer their data from one PHR to another PHR	Data Transaction-Data Access and Update	Edge	CE - Consumer	IBM-207-39 IBM-211-02 NGIT-099		See Data Transaction (Push)	
719	IBM-212-03	Consumer System-PHR	May	Allow for modifications and annotations in lab results, clinical notes, etc.	Data Transaction-Data Access and Update	Edge	CE - Consumer		X		

Analysis performed by Margret Amatayakul

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731	IBM-212-15	Consumer System-PHR	May	Allow consumer to hide clinical data, lab results, family history, etc.	Data Transaction-Data Access and Update	Edge	CE - Consumer		X		
366	CSC-ALL-990	External User interfaces	May	Provide a web interface if an EMR system is not available to perform NHIN queries.	Data Transaction-Data Access and Update	Edge	Infrastructure	CSC-EHR-510	E	Combined	
450	CSC-EHR-510	External User interfaces	May	Provide web-based or other application interfaces to process lab results, if an EMR system with the necessary capabilities is not available.	Data Transaction-Data Access and Update	Edge	EHR - Lab	CSC-ALL-990	E	Combined	
344	CSC-ALL-710	Repositories	May	Accept inserts, updates and deletes to persisted data.	Data Transaction-Data Access and Update	Edge	Infrastructure		E	Required by HIPAA (§164.526), although seems like "delete" should be "mask" to ensure there is evidence of data existence in the event of previous action	FHA
664	IBM-208-04	CDO	1 Shall	Send HL7 feeds to NHIN Interface	Data Transaction-Data Routing	Core	Infrastructure		E	Raised to generic level (e.g., could be NCPDP message)	
311	CSC-ALL-20	CDO-CDO NHIN Interface	1 Shall	Maintain a local list of URLs for other SNOs and entities that it it is authorized to query and to send messages.	Data Transaction-Data Routing	Core	Infrastructure		X		
330	CSC-ALL-410	CDO-CDO NHIN Interface	1 Shall	Accept and route all authorized messages to designated edge systems.	Data Transaction-Data Routing	Core	Infrastructure		N		FHA
521	IBM-102-09	CDO-CDO NHIN Interface	1 Shall	Apply business rules to determine which of all of the registered (local, state and federal) public agencies need to be notified for each data request	Data Transaction-Data Routing	Core	Bio	IBM-107-06 IBM-107-05 NGIT-071	N	Combined	
536	IBM-103-09	CDO-CDO NHIN Interface	1 Shall	Apply business rules to determine which of all of the registered (local, state and federal) public agencies need to be notified for each data request	Data Transaction-Data Routing	Core	Bio	IBM-102-09		Exact duplicate	
1056	NGIT-071	CDO-CDO NHIN Interface	1 Shall	Support business rules for routing biosurveillance data to specific public health agencies	Data Transaction-Data Routing	Core	Bio	IBM-103-09 IBM-107-06 IBM-107-05	N	Combined	
571	IBM-107-05	Message Handling	2 Should	Determine entities to receive biosurveillance event response "broadcast" messages based on authorization by sender and subscription by receiver to support event response	Data Transaction-Data Routing	Core	Biosurveillance	IBM-102-09 IBM-107-06 NGIT-071	N	Combined	
572	IBM-107-06	Message Handling	2 Should	Determine entities to receive biosurveillance event response "broadcast" message based on one or more business rules (e.g. location of outbreak, severity of event, etc) to support event response	Data Transaction-Data Routing	Core	Biosurveillance	IBM-102-09 IBM-107-05 NGIT-071	N	Combined	FHA

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573	IBM-107-07	Message Handling	May	Send biosurveillance event response 'broadcast" messages according to authorized recipient's specified mode (secure email, web application, EHR/responder system)	Data Transaction-Data Routing	Core	Biosurveillance		N	Seems this should apply to any application	
704	IBM-209-40	CDO	1 Shall	Send confirmation acknowledging receipt of registration/medication history data	Data Transaction-Data Routing	Edge	CE - Consumer			See Data Qualtiy/Integrity	
331	CSC-ALL-420	All Edge Systems (CSC)	May	Determine the method of message delivery to the final destinations.	Data Transaction-Data Routing	Edge	Infrastructure	CSC-ALL-440	E	Combined	FHA
333	CSC-ALL-440	All Edge Systems (CSC)	May	Specify multiple destinations for a message, in order that the message transmission system may distribute the messages	Data Transaction-Data Routing	Edge	Infrastructure	CSC-ALL-420	E	Combined	
430	CSC-EHR-310	CDO	May	Collect and persist information, provided by the patient, regarding providers to be notified, or excluded from notification, of availability of Lab results	Data Transaction-Data Routing	Edge	EHR - Lab		X		
431	CSC-EHR-330	CDO	May	Collect and persist information, provided by the patient, regarding providers to be allowed, or excluded from, access to Lab results	Data Transaction-Data Routing	Edge	EHR - Lab		X		
1055	NGIT-070	CDO-EMR	May	Specify destination(s) for tranmission of biosurveillance data	Data Transaction-Data Routing	Edge	Bio		X		
701	IBM-209-37	CDO	1 Shall	Confirm integrity of imported data	Data Transaction-Data Transaction Verification	Edge	CE - Consumer			See Data Quality/Integrity	
714	IBM-211-07	Consumer System-PHR	1 Shall	Transmit confirmation that PHR has been closed (or closed and transferred)	Data Transaction-Data Transaction Verification	Edge	CE - Consumer			See Data Quality/Integrity	
715	IBM-211-08	Consumer System-PHR	May	Transmit notification that PHR data has been transferred to another vendor	Data Transaction-Data Transaction Verification	Edge	CE - Consumer	CSC-CE-630		See Data Quality/Integrity	
1046	NGIT-062	CDO-CDO NHIN Interface	1 Shall	Accept a filter rule defined by public health agencies	Data Transformation-Data Filtering	Core	Bio	NGIT-063	N	Combined	
1047	NGIT-063	CDO-CDO NHIN Interface	1 Shall	Apply filter rule changes	Data Transformation-Data Filtering	Core	Bio	NGIT-062	N	Combined	
1048	NGIT-064	CDO-CDO NHIN Interface	1 Shall	Filter collected data records to identify biosurveillance data	Data Transformation-Data Filtering	Core	Bio	IBM-103-04 IBM-102-04 NGIT-061 NGIT-062	N	Combined	
1049	NGIT-065	CDO-CDO NHIN Interface	1 Shall	Aggregate data for transmission as determined by HITSP implementation guide	Data Transformation-Data Filtering	Core	Bio	NGIT-059	E	Combined	
972	IBM-318-01	External User interfaces	1 Shall	Allow clinician to subscribe to specified or all available future clinical events data for specified patient (vs. flag in registry)	Data Transformation-Data Filtering	Core	EHR - Lab	IBM-318-02	N	Combined	

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973	IBM-318-02	External User interfaces	1 Shall	Allow clinician to un-subscribe to future clinical events data for specified patient	Data Transformation-Data Filtering	Core	EHR - Lab	IBM-318-01	N	Combined	
864	IBM-307-44	RLS	1 Shall	Receive request for lab test results location based on lab order number or other unique lab test identifier	Data Transformation-Data Filtering	Core	EHR - Lab			See Information Location	
932	IBM-313-01	NHIN Administration-User Registration	2 Should	Store provider preferences to automatically receive new lab result events in EHR when provider is ordering clinician	Data Transformation-Data Filtering	Core	EHR - Lab	IBM-313-02 IBM-313-03 IBM-313-04	N	Seems to describe a specific type of architecture	
933	IBM-313-02	NHIN Administration-User Registration	2 Should	Store provider preferences to automatically receive new lab result events into EHR when provider is not the ordering clinician	Data Transformation-Data Filtering	Core	EHR - Lab	IBM-313-01 IBM-313-03 IBM-313-04	N	Seems to describe a specific type of architecture	
934	IBM-313-03	NHIN Administration-User Registration	2 Should	Store provider preferences to automatically receive notification of new lab result events into EHR or Web application when provider is ordering clinician	Data Transformation-Data Filtering	Core	EHR - Lab	IBM-313-02 IBM-313-01 IBM-313-04	N	Seems to describe a specific type of architecture	
935	IBM-313-04	NHIN Administration-User Registration	2 Should	Store provider preferences to automatically receive notification of new lab result events into EHR or Web application when provider is not ordering clinician	Data Transformation-Data Filtering	Core	EHR - Lab	IBM-313-02 IBM-313-03 IBM-313-01	N	Seems to describe a specific type of architecture	
850	IBM-307-30	CDO-EMR	1 Shall	Provide ability for clinician to request all available data (from local and remote communities) for specified patient	Data Transformation-Data Filtering	Edge	EHR - Lab	IBM-307-43 IBM-307-32	E	Combined	FHA
562	IBM-106-07	Data Analysis and Secondary Use Systems-Public Health	1 Shall	Send requests to inventory status of medical supplies to monitor a previously detected event	Data Transformation-Data Filtering	Edge	Biosurveillance		X		
851	IBM-307-31	External User interfaces	1 Shall	Provide ability for clinician to request all available data (from local and remote communities) for specified patient	Data Transformation-Data Filtering	Edge	EHR - Lab	IBM-307-30		Exact duplicate	
863	IBM-307-43	External User interfaces	1 Shall	Provide clinician ability to request for specific lab test results based on order number or other unique test result identification	Data Transformation-Data Filtering	Edge	EHR - Lab	IBM-307-30 IBM-307-32	E	Combined	
852	IBM-307-32	CDO-EMR	2 Should	Provide clinician ability to query for results based on one or multiple criteria for a specified patient	Data Transformation-Data Filtering	Edge	EHR - Lab	IBM-307-34 IBM-307-36 IBM-307-38 IBM-307-40 IBM-307-42			FHA
853	IBM-307-33	External User interfaces	2 Should	Provide clinician ability to query for results based on one or multiple criteria for a specified patient	Data Transformation-Data Filtering	Edge	EHR - Lab	IBM-307-32		Exact duplicate	
855	IBM-307-35	External User interfaces	2 Should	Provide clinician ability to query for lab results based on a specified date range for a specified patient	Data Transformation-Data Filtering	Edge	EHR - Lab	IBM-307-30 IBM-307-32	E	Combined	

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857	IBM-307-37	External User interfaces	2 Should	Provide clinician ability to query for lab results based on one or more types of lab data (chemistry, hematology, pathology, etc) for a specified patient	Data Transformation-Data Filtering	Edge	EHR - Lab	IBM-307-30 IBM-307-32	E	Combined	
341	CSC-ALL-670	Repositories	2 Should	Support various filters for querying data, including filtering on a specific order number.	Data Transformation-Data Filtering	Edge	Infrastructure	IBM-307-35 IBM-307-37 CSC-ALL-930	E	Combined	FHA
360	CSC-ALL-930	All Edge Systems (CSC)	May	Specify various filters for returned data, for example filtering results on a specific lab order number.	Data Transformation-Data Filtering	Edge	Infrastructure	IBM-307-35 IBM-307-37 CSC-ALL-670	E	Combined	FHA
1039	NGIT-055	CDO	May	Filter collected data records to identify biosurveillance data	Data Transformation-Data Filtering	Edge	Bio	CSC-BIO-340 CSC-BIO-500 NGIT-056	X		
1041	NGIT-057	CDO	May	Accept a filter rule defined by public health agencies	Data Transformation-Data Filtering	Edge	Bio		X		
1042	NGIT-058	CDO	May	Apply filter rule changes	Data Transformation-Data Filtering	Edge	Bio		X		
1043	NGIT-059	CDO	May	Aggregate data for transmission as determined by HITSP implementation guide	Data Transformation-Data Filtering	Edge	Bio	NGIT-065	E	Combined	
1059	NGIT-074	CDO-Registration	May	Filter collected data records to identify biosurveillance data	Data Transformation-Data Filtering	Edge	Bio		X		
1060	NGIT-075	CDO-Registration	May	Aggregate and format census data for transmission to public health agencies	Data Transformation-Data Filtering	Edge	Bio		X		
859	IBM-307-39	External User interfaces	May	Provide clinician ability to query for lab results based on one or more specified lab tests for a specified patient	Data Transformation-Data Filtering	Edge	EHR - Lab	IBM-307-30 IBM-307-32	E	Combined	
861	IBM-307-41	External User interfaces	May	Provide clinician ability to query for lab results based on one, more or all local or remote marketplaces for a specified patient	Data Transformation-Data Filtering	Edge	EHR - Lab	IBM-307-30 IBM-307-32	E	Combined	
520	IBM-102-08	CDO-CDO NHIN Interface	1 Shall	Transform data using approved standards as provided by HITSP or as agreed upon with ONC for the Architecture Prototype	Data Transformation-Data Mapping/Translation	Core	Bio	NGIT-068 NGIT-072 IBM-103-08 NGIT-100	N	Combined; location of service depends on NHIN architecture	FHA
1084	NGIT-100	Consumer System-Consumer NHIN Interface	1 Shall	Support translating data into appropriate standards for incorporating data into EHRs	Data Transformation-Data Mapping/Translation	Core	CE - Consumer	IBM-102-08	N	Combined	FHA

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698	IBM-209-34	CDO	1 Shall	Receive registration/medication history to parse into EHR system via NHIN	Data Transformation-Data Mapping/Translation	Edge	CE - Consumer	IBM-209-39	E	Combined	
703	IBM-209-39	CDO	1 Shall	Parse and validate results content	Data Transformation-Data Mapping/Translation	Edge	CE - Consumer	IBM-209-34	E	Combined	
608	IBM-205-15	Consumer System-PHR	1 Shall	Receive registration/medication history to pre populate PHR via NHIN	Data Transformation-Data Mapping/Translation	Edge	Infrastructure			Doesn't seem to relate to Data Mapping/Translation	
635	IBM-207-15	Consumer System-PHR	1 Shall	Receive registration/medication history to update PHR via NHIN	Data Transformation-Data Mapping/Translation	Edge	CE - Consumer			Doesn't seem to relate to Data Mapping/Translation	
54	ACN-02.5	Terminology Servers	1 Shall	Communicate in the NHIN using defined standards.	Data Transformation-Data Mapping/Translation	Edge	Infrastructure	General form of ACN-02.5.11 through ACN-02.5.2.9	E	Combined	
55	ACN-02.5.1	Terminology Servers	1 Shall	Communicate in the NHIN using standard message formats.	Data Transformation-Data Mapping/Translation	Edge	Infrastructure	General form of ACN-02.5.11 through ACN-02.5.2.9	E	Combined	
56	ACN-02.5.1.1	Terminology Servers	1 Shall	Communicate with the NHIN using Health Level 7 (HL7) version 3 messages.	Data Transformation-Data Mapping/Translation	Edge	Infrastructure	See ACN-02.5 and ACN-02.5.1	E	Combined	
57	ACN-02.5.1.2	Terminology Servers	1 Shall	Communicate with the NHIN using Health Level 7 (HL7) Clinical Document Architecture (CDA) messages.	Data Transformation-Data Mapping/Translation	Edge	Infrastructure	See ACN-02.5 and ACN-02.5.1	E	Combined	
58	ACN-02.5.1.3	Terminology Servers	1 Shall	Communicate with the NHIN using NCPDP Script (v8.1 or greater) messages.	Data Transformation-Data Mapping/Translation	Edge	Infrastructure	See ACN-02.5 and ACN-02.5.1	E	Combined	
59	ACN-02.5.1.4	Terminology Servers	1 Shall	Communicate with the NHIN using HIPAA approved transactions.	Data Transformation-Data Mapping/Translation	Edge	Infrastructure	See ACN-02.5 and ACN-02.5.1	E	Combined	

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60	ACN-02.5.2	Terminology Servers	1 Shall	Communicate with the NHIN using standard terminology.	Data Transformation-Data Mapping/Translation	Edge	Infrastructure	See ACN-02.5 and ACN-02.5.1	E	Combined	
61	ACN-02.5.2.1	Terminology Servers	1 Shall	Communicate with the NHIN using Health Level 7 (HL7) vocabulary standards for demographic information.	Data Transformation-Data Mapping/Translation	Edge	Infrastructure	See ACN-02.5 and ACN-02.5.1	E	Combined	
62	ACN-02.5.2.10	Terminology Servers	1 Shall	Communicate with the NHIN using LOINC vocabulary standards for laboratory test codes.	Data Transformation-Data Mapping/Translation	Edge	Infrastructure	See ACN-02.5 and ACN-02.5.1	E	Combined	
63	ACN-02.5.2.11	Terminology Servers	1 Shall	Communicate with the NHIN using terminology standards (such as CDISC and MedDRA) used to support clinical research and drug approval/monitoring.	Data Transformation-Data Mapping/Translation	Edge	Infrastructure	See ACN-02.5 and ACN-02.5.1	E	Combined	
64	ACN-02.5.2.12	Terminology Servers	1 Shall	Communicate with the NHIN using ICD-9 vocabulary standards for diagnosis.	Data Transformation-Data Mapping/Translation	Edge	Infrastructure	See ACN-02.5 and ACN-02.5.1	E	Combined	
65	ACN-02.5.2.2	Terminology Servers	1 Shall	Communicate with the NHIN using Health Level 7 (HL7) vocabulary standards for units of measure.	Data Transformation-Data Mapping/Translation	Edge	Infrastructure	See ACN-02.5 and ACN-02.5.1	E	Combined	
66	ACN-02.5.2.3	Terminology Servers	1 Shall	Communicate with the NHIN using Health Level 7 (HL7) vocabulary standards for immunizations.	Data Transformation-Data Mapping/Translation	Edge	Infrastructure	See ACN-02.5 and ACN-02.5.1	E	Combined	
67	ACN-02.5.2.4	Terminology Servers	1 Shall	Communicate with the NHIN using Health Level 7 (HL7) vocabulary standards for clinical encounters.	Data Transformation-Data Mapping/Translation	Edge	Infrastructure	See ACN-02.5 and ACN-02.5.1	E	Combined	
68	ACN-02.5.2.5	Terminology Servers	1 Shall	Communicate with the NHIN using The College of American Pathologists Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT) for laboratory result contents.	Data Transformation-Data Mapping/Translation	Edge	Infrastructure	See ACN-02.5 and ACN-02.5.1	E	Combined	
69	ACN-02.5.2.6	Terminology Servers	1 Shall	Communicate with the NHIN using The College of American Pathologists Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT) for non-laboratory interventions and procedures.	Data Transformation-Data Mapping/Translation	Edge	Infrastructure	See ACN-02.5 and ACN-02.5.1	E	Combined	

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70	ACN-02.5.2.7	Terminology Servers	1 Shall	Communicate with the NHIN using The College of American Pathologists Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT) for anatomy.	Data Transformation-Data Mapping/Translation	Edge	Infrastructure	See ACN-02.5 and ACN-02.5.1	E	Combined	
71	ACN-02.5.2.8	Terminology Servers	1 Shall	Communicate with the NHIN using The College of American Pathologists Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT) for diagnosis and problems.	Data Transformation-Data Mapping/Translation	Edge	Infrastructure	See ACN-02.5 and ACN-02.5.1	E	Combined	
72	ACN-02.5.2.9	Terminology Servers	1 Shall	Communicate with the NHIN using a set of federal terminologies related to medications, including: -The Food and Drug Administration's names and codes for ingredients -Manufactured dosage forms, drug products and medication packages -The National Library of Medicine's RxNORM for describing clinical drugs -The Veterans Administration's National Drug File Reference Terminology (NDF-RT) for specific drug classifications.	Data Transformation-Data Mapping/Translation	Edge	Infrastructure	See ACN-02.5 and ACN-02.5.1	E	Combined	
101	ACN-04.11	Terminology Servers	1 Shall	Contain mappings of local terminologies to NHIN standard terminologies.	Data Transformation-Data Mapping/Translation	Edge	Infrastructure		E	Suggest revision to HITSP standard terminologies.	
102	ACN-04.12	Terminology Servers	1 Shall	Present data to users in standard terminologies.	Data Transformation-Data Mapping/Translation	Edge	Infrastructure		E	Revise to present data as desired by users because some users may prefer to have data presented in local terminology	
103	ACN-04.13	Terminology Servers	1 Shall	Maintain sets of standard terminologies.	Data Transformation-Data Mapping/Translation	Edge	Infrastructure		X		
104	ACN-04.14	Terminology Servers	1 Shall	Maintain sets of local terminologies.	Data Transformation-Data Mapping/Translation	Edge	Infrastructure		X		
387	CSC-BIO-540	CDO	2 Should	Transform data into approved HITSP standards using their implementation guidelines	Data Transformation-Data Mapping/Translation	Edge	Bio		X		

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790	IBM-304-24	Terminology Servers	2 Should	Translate lab data to comply with HITSP or participant agreed upon content and messaging standards	Data Transformation- Data Mapping/Translation	Edge	EHR - Lab		X		
905	IBM-309-13	Terminology Servers	2 Should	Translate lab results data to comply with HITSP or participant agreed upon content and messaging standards	Data Transformation- Data Mapping/Translation	Edge	EHR - Lab		X		
1051	NGIT-067	CDO-EMR	May	Transform data into approved standards	Data Transformation- Data Mapping/Translation	Edge	Bio		X		
648	IBM-207-28	Consumer System-PHR	May	Map information entered by PHR Account Holders to controlled, standardized code sets or nomenclature when feasible	Data Transformation- Data Mapping/Translation	Edge	CE - Consumer		X		
730	IBM-212-14	Consumer System-PHR	May	Offer 'translation' services to provide clinical data in easy to read and understandable format and language	Data Transformation- Data Mapping/Translation	Edge	CE - Consumer		E		FHA
967	IBM-317-06	External User interfaces	1 Shall	Support multiple languages	Data Transformation- Data Rendering	Core	EHR - Lab	IBM-317-06 through IBM-317-19	N	Combined	
968	IBM-317-07	External User interfaces	1 Shall	Display content in language designated by user	Data Transformation- Data Rendering	Core	EHR - Lab	IBM-317-06 through IBM-317-19	N	Combined	
969	IBM-317-08	External User interfaces	1 Shall	Support data entry in language designated by user	Data Transformation- Data Rendering	Core	EHR - Lab	IBM-317-06 through IBM-317-19	N	Combined	
970	IBM-317-09	External User interfaces	1 Shall	Display retrieved data in language specified by user	Data Transformation- Data Rendering	Core	EHR - Lab	IBM-317-06 through IBM-317-19	N	Combined	
971	IBM-317-10	External User interfaces	1 Shall	Provide accessibility for handicapped	Data Transformation- Data Rendering	Core	EHR - Lab	IBM-317-05	N		
962	IBM-317-01	CDO	1 Shall	Support multiple languages	Data Transformation- Data Rendering	Edge	EHR - Lab	IBM-317-01 through IBM-317-04	E	Combined and Equivalent of N	
963	IBM-317-02	CDO	1 Shall	Display content in language designated by user	Data Transformation- Data Rendering	Edge	EHR - Lab	IBM-317-01 through IBM-317-04	E	Combined and Equivalent of N	
964	IBM-317-03	CDO	1 Shall	Support data entry in language designated by user	Data Transformation- Data Rendering	Edge	EHR - Lab	IBM-317-01 through IBM-317-04	E	Combined and Equivalent of N	
965	IBM-317-04	CDO	1 Shall	Display retrieved data in language specified by user	Data Transformation- Data Rendering	Edge	EHR - Lab	IBM-317-01 through IBM-317-04	E	Combined and Equivalent of N	

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966	IBM-317-05	CDO	1 Shall	Provide accessibility for handicapped	Data Transformation- Data Rendering	Edge	EHR - Lab	IBM-317-10	E	Equivalent of N	
819	IBM-306-11	CDO-EMR	1 Shall	Display notification of new lab result event. The display is easy to understand and the displayed content is determined by the receiving entity.	Data Transformation- Data Rendering	Edge	EHR - Lab	IBM-306-12	E	Combined	
2	ACN-01.1	External User interfaces	1 Shall	Allow patients access to their personal health record (PHR).	Data Transformation- Data Rendering	Edge	CE - Consumer	ACN-01.2	E	Combined	FHA
9	ACN-01.2	External User interfaces	1 Shall	Allow providers access to view information on specific patients.	Data Transformation- Data Rendering	Edge	CE, EHR	ACN-01.1	E	Combined	FHA
10	ACN-01.3	External User interfaces	1 Shall	Allow patients and providers to view medication history.	Data Transformation- Data Rendering	Edge	CE, EHR	General form of ACN-01.1 and ACN-01.2 and Equivalent of Specific ACN-01.3 through ACN01.8	E	Combined	
11	ACN-01.4	External User interfaces	1 Shall	Allow patients and providers to view allergy history.	Data Transformation- Data Rendering	Edge	CE, EHR		E	Combined	
12	ACN-01.5	External User interfaces	1 Shall	Allow patients and providers to view and edit their demographic information.	Data Transformation- Data Rendering	Edge	CE, EHR		E	Combined	
13	ACN-01.6	External User interfaces	1 Shall	Allow providers to view laboratory result and order information.	Data Transformation- Data Rendering	Edge	EHR - Lab	IBM-312-05	E	Combined	
14	ACN-01.7	External User interfaces	1 Shall	Allow providers to view radiology reports.	Data Transformation- Data Rendering	Edge	EHR - Lab		E	Combined	FHA
15	ACN-01.8	External User interfaces	1 Shall	Allow providers to view medical images and other imaged materials.	Data Transformation- Data Rendering	Edge	EHR - Lab		E	Combined	
820	IBM-306-12	External User interfaces	1 Shall	Display notification of new lab result event. The display is easy to understand and the displayed content is determined by the marketplace.	Data Transformation- Data Rendering	Edge	EHR - Lab	IBM-306-11	E	Combined	
930	IBM-312-06	External User interfaces	1 Shall	Print lab results from web application	Data Transformation- Data Rendering	Edge	EHR - Lab		X		
39	ACN-02.3.13	Message Handling	1 Shall	Aggregate request results into a consolidated message.	Data Transformation- Data Rendering	Edge	CE, EHR	IBM-205-14 CSC-ALL-840	N	See Push	
40	ACN-02.3.14	Message Handling	1 Shall	Format the received data in a way which is understandable to the end user	Data Transformation- Data Rendering	Edge	CE, EHR		X		

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325	CSC-ALL-320	CDO-CDO NHIN Interface	1 Shall	Use the Record Locator Service to resolve patient indentiy amibiguities.	Information Location-Identity/Information Correlation	Core	Infrastructure	ACN-02.1.3	N	Combined	
347	CSC-ALL-770	CDO-CDO NHIN Interface	1 Shall	Return unambiguous patient identities for all query results.	Information Location-Identity/Information Correlation	Core	Infrastructure	NGIT-009 NGIT-008 CSC-ALL-280	N	Combined	
18	ACN-02.1	MPI	1 Shall	Contain an index of unique patients participating in the NHIN.	Information Location-Identity/Information Correlation	Core	Infrastructure		N	Assumes an architecture	
19	ACN-02.1.1	MPI	1 Shall	Uniquely identify a person by some or all of the following attributes: - Last Name - Middle Name - First Name - Date of Birth - Gender - Place of Birth - Social Security Number - Mother's Maiden Name - Address	Information Location-Identity/Information Correlation	Core	Infrastructure	CSC-ALL-300	N		
20	ACN-02.1.2	MPI	1 Shall	Receive unique patient information from participating edge systems.	Information Location-Identity/Information Correlation	Core	Infrastructure	IBM-307-08 ACN-02.1.2.2 ACN-02.1.2.5 NGIT-007	N	Combine. Seems to assume an architecture	
21	ACN-02.1.2.1	MPI	1 Shall	Add new patient identifier information to the patient index.	Information Location-Identity/Information Correlation	Core	Infrastructure	IBM-307-08 ACN-02.1.2.2	N	Combine	
22	ACN-02.1.2.2	MPI	1 Shall	Update patient identifier information in the patient index.	Information Location-Identity/Information Correlation	Core	Infrastructure	ACN-02.1.2 IBM-307-08	N	Combine	
23	ACN-02.1.2.3	MPI	1 Shall	Add patient consent information to the patient index for patients willing to share their data.	Information Location-Identity/Information Correlation	Core	Infrastructure			Seems to assume an architecture and includes policy	
24	ACN-02.1.2.4	MPI	1 Shall	Add patient dissent information to the patient index for patients not willing to share their data.	Information Location-Identity/Information Correlation	Core	CE - Consumer			Seems to assume an architecture and includes policy	
25	ACN-02.1.2.5	MPI	1 Shall	Receive patient information when sent from edge systems.	Information Location-Identity/Information Correlation	Core	Infrastructure	IBM-307-08 ACN-02.1.2.2		Very similar	
26	ACN-02.1.2.6	MPI	1 Shall	Validate patient information when sent from edge systems.	Information Location-Identity/Information Correlation	Core	Infrastructure	ACN-02.1.2 IBM-307-08 ACN-02.1.2.2	N	Combined	

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27	ACN-02.1.3	MPI	1 Shall	Link patient identifiers for a patient that exists in multiple edge systems.	Information Location-Identity/Information Correlation	Core	Infrastructure	CSC-ALL-320 ACN-02.1.4	N	Combined	
28	ACN-02.1.4	MPI	1 Shall	Unlink patient identifiers for patients incorrectly linked to other patients.	Information Location-Identity/Information Correlation	Core	Infrastructure	CSC-ALL-320 ACN-02.1.3	N	Combined	
831	IBM-307-11	MPI	1 Shall	Provide method for clinician and locator system to agree on patient identity through patient trait matching, shared MPI or patient identifier matching (as determined by the marketplace)	Information Location-Identity/Information Correlation	Core	EHR - Lab	IBM-307-12 CSC-ALL-320 and other related fcns	E	Combined	
1033	NGIT-007	MPI	1 Shall	Maintain index of patients registered at particpating entities	Information Location-Identity/Information Correlation	Core	Infrastructure	IBM-307-08 ACN-02.1.2.2 ACN-02.1.2.5	N	Combine. Seems to assume an architecture	
1034	NGIT-008	MPI	1 Shall	Determine unambiguous match of patient identities supported by entities associated with the network	Information Location-Identity/Information Correlation	Core	Infrastructure	NGIT-134 CSC-ALL-770 IBM-307-08	N	Combined	FHA
1035	NGIT-009	MPI	1 Shall	Return patient identifiers previously uploaded by data sources for a uniquely identified patient	Information Location-Identity/Information Correlation	Core	Infrastructure	CSC-ALL-280 IBM-307-09	N	Combined	
127	ACN-05.2	NHIN Administration-Organization Registration	1 Shall	Maintain a unique organizational identifier for each participating edge system and provider organization.	Information Location-Identity/Information Correlation	Core	Infrastructure	ACN-05.2.1.1 ACN-05.2.1.2 ACN-05.2.1.3	N	Isn't this the HIPAA NPI? Assume identifier needed for non-covered entities. Combined w/related fcns	
128	ACN-05.2.1	NHIN Administration-Organization Registration	1 Shall	Maintain a list of certified members.	Information Location-Identity/Information Correlation	Core	Infrastructure			See Credentialing	
129	ACN-05.2.1.1	NHIN Administration-Organization Registration	1 Shall	Create new organization identifiers.	Information Location-Identity/Information Correlation	Core	Infrastructure	ACN-05.2 ACN-05.2.1.2 ACN-05.2.1.3	N	Combined	
130	ACN-05.2.1.2	NHIN Administration-Organization Registration	1 Shall	Update organization identifiers.	Information Location-Identity/Information Correlation	Core	Infrastructure	ACN-05.2.1.1 ACN-05.2 ACN-05.2.1.3	N	Combined	
131	ACN-05.2.1.3	NHIN Administration-Organization Registration	1 Shall	Inactivate organization identifiers.	Information Location-Identity/Information Correlation	Core	Infrastructure	ACN-05.2.1.1 ACN-05.2.1.2 ACN-05.2	N	Combined	

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17	ACN-02	NHIN Overarching (ACN)	1 Shall	Facilitate the exchange of accurate and reliable health information.	Information Location-Identity/Information Correlation	Core	Infrastructure			Very general	
320	CSC-ALL-280	RLS	1 Shall	Return actual identity values matched.	Information Location-Identity/Information Correlation	Core	Infrastructure	NGIT-009 NGIT-008 CSC-ALL-770 IBM-307-09	N	Combined	
598	IBM-205-05	RLS	1 Shall	Match patient to respective sources of data when pre-populating the PHR from the NHIN	Information Location-Identity/Information Correlation	Core	Infrastructure	IBM-207-05	E	See also Data Access & Update. Combined	
625	IBM-207-05	RLS	1 Shall	Match patient to respective sources of data when updating the PHR from the NHIN	Information Location-Identity/Information Correlation	Core	Infrastructure	IBM-205-05	E	See also Data Access & Update. Combined	
828	IBM-307-08	RLS	1 Shall	Receive demographic information for patient for query	Information Location-Identity/Information Correlation	Core	EHR - Lab	ACN-02.1.2	N	Combined	
829	IBM-307-09	RLS	1 Shall	Return one or more patients to the requesting clinician who meet the community defined minimum level of matching probability	Information Location-Identity/Information Correlation	Core	EHR - Lab	NGIT-009 NGIT-008 CSC-ALL-770 CSC-ALL-280		Combined	
830	IBM-307-10	RLS	1 Shall	Returns error message if no patients are found who meet the community defined minimum level of matching probability	Information Location-Identity/Information Correlation	Core	EHR - Lab			See Data Quality/Integrity	
540	IBM-103-13	CDO-CDO NHIN Interface	2 Should	Minimize double counting. The system should be able to determine when multiple and or independently submitted data refer to the same case (patient) or event.	Information Location-Identity/Information Correlation	Core	Bio	IBM-102-13	E		FHA
656	IBM-207-36	Consumer System-PHR	May	Publish the appropriate links with updated data back to the record locator	Information Location-Identity/Information Correlation	Core	Infrastructure	ACN-02.1.2.2	N	Combined	
	IBM-208-03	Consumer System-PHR	May	Publish the appropriate links back to the record locator	Information Location-Identity/Information Correlation	Core	Infrastructure	ACN-02.1.3	N	Combined	
712	IBM-211-05	Consumer System-PHR	May	Publish the appropriate links with updated data back to the record locator	Information Location-Identity/Information Correlation	Core	Infrastructure	IBM-207-36	N	Exact duplicate	
323	CSC-ALL-300	RLS	May	Use various identifiers in determining patient identity	Information Location-Identity/Information Correlation	Core	Infrastructure	CSC-ALL-290 ACN-02.1.1	N	Combined	

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826	IBM-307-06	CDO-EMR	1 Shall	Send demographic information to record locator to identify patient for query. Data required is determined by the community.	Information Location-Identity/Information Correlation	Edge	EHR - Lab	CSC-ALL-770 CSC-ALL-280 IBM-307-09 NGIT-009 NGIT-008	E	Equivalent of N	
833	IBM-307-13	CDO-EMR	1 Shall	Provide ability for clinician to browse potential matches and confirm the correct patient for data location retrieval to locator system	Information Location-Identity/Information Correlation	Edge	EHR - Lab	IBM-307-11	E	Equivalent of N	
309	CSC-ALL-180	CDO-Registration	1 Shall	Maintain latest available patient identifying information	Information Location-Identity/Information Correlation	Edge	Infrastructure	ACN-02.1 NGIT-007	E	Equivalent of N	
612	IBM-205-19	Consumer System-PHR	1 Shall	Maintain an XDS repository following pre-population	Information Location-Identity/Information Correlation	Edge	CE - Consumer		E		
613	IBM-205-20	Consumer System-PHR	1 Shall	Publish the appropriate links back to the record locator	Information Location-Identity/Information Correlation	Edge	CE - Consumer	IBM-207-20			
755	IBM-301-01	External User interfaces	1 Shall	Prompt consumer or proxy for identification data for NHIN	Information Location-Identity/Information Correlation	Edge	EHR - Lab				
827	IBM-307-07	External User interfaces	1 Shall	Send demographic information to record locator to identify patient for query. Data required is determined by the community.	Information Location-Identity/Information Correlation	Edge	EHR - Lab	ACN-02.1.2 IBM-307-08 ACN-02.1.2.2 ACN-02.1.2.6 CSC-910	E	Equivalent of N	
834	IBM-307-14	External User interfaces	1 Shall	Provide ability for clinician to browse potential matches and confirm the correct patient for data location retrieval to locator system	Information Location-Identity/Information Correlation	Edge	EHR - Lab	CSC-ALL-320 ACN-02.1.3 ACN-02.1.4 and IBM-307-11 IBM-307-13 IBM-307-14	E	Equivalent of N	
113	ACN-04.8	MPI	1 Shall	Uniquely identify a person by some or all of the following attributes: - Last Name - Middle Name - First Name - Date of Birth - Gender - Place of Birth - Social Security Number - Mother's Maiden Name - Address	Information Location-Identity/Information Correlation	Edge	Infrastructure	ACN-02.1.1 CSC-ALL-300	E	Equivalent of N	

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114	ACN-04.9	MPI	1 Shall	Uniquely identify a provider by some or all of the following attributes: - Provider OID - Name - Role - Provider Organization - DEA # - License # - State Licensed In	Information Location-Identity/Information Correlation	Edge	Infrastructure	ACN-05.2	E	Equivalent of N. Should'n provider identifier be HIPAA NPI?	
100	ACN-04.10	NHIN Administration-Consumer Authorization	1 Shall	Establish patient-provider relationships.	Information Location-Identity/Information Correlation	Edge	Infrastructure		E		
386	CSC-BIO-530	CDO	2 Should	Embed randomized data linker to allow authorized re-identification	Information Location-Identity/Information Correlation	Edge	Bio	CSC-BIO-100	E	Combined	
429	CSC-EHR-305	CDO	2 Should	Collect and update patient demographic identity information.	Information Location-Identity/Information Correlation	Edge	EHR - Lab	ACN-02.1.2 IBM-307-08 ACN-02.1.2.2 ACN-02.1.2.6 and IBM-307-07	E	Combined	
368	CSC-BIO-030	Data Analysis and Secondary Use Systems-Public Health	2 Should	Receive sufficient and accurate information enabling them to effectively respond to and manage public health events--for early detection, situational awareness, rapid response, automatic maximum data sharing	Information Location-Identity/Information Correlation	Edge	Bio		X		
358	CSC-ALL-910	All Edge Systems (CSC)	May	Submit various identifiers to the NHIN Interface, to aid in ascertaining patient identity.	Information Location-Identity/Information Correlation	Edge	Infrastructure	IBM-307-07	E	Combined	
359	CSC-ALL-920	All Edge Systems (CSC)	May	Interact with clinicians to determine identity of patients, using some form of local MPI, but this is not allowed for identities from other SNOs.	Information Location-Identity/Information Correlation	Edge	Infrastructure		X	Policy	
370	CSC-BIO-100	CDO	May	Relink anonymized data to patients when requested by authorized public health officials for investigations, or use intermediaries to do so	Information Location-Identity/Information Correlation	Edge	Bio	CSC-BIO-530		Combined	
373	CSC-BIO-210	CDO	May	Provide patient demographic data including encounter date, patient information, date/time of last record update	Information Location-Identity/Information Correlation	Edge	Bio	IBM-101-01 IBM-101-03 IBM-101-05		Seems like more than Identity/Information Correlation	
374	CSC-BIO-220	CDO	May	Provide clinical data including patient class, diagnosis/injury code, diagnostic type, diagnostic date and time, discharge disposition, chief complaint, date and time of first signs of illness	Information Location-Identity/Information Correlation	Edge	Bio	IBM-101-02 IBM-101-04 IBM-101-06		Seems like more than Identity/Information Correlation	

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375	CSC-BIO-240	CDO	May	Provide Laboratory and Radiology Test Results including reporting lab ID, performing lab ID, report data/time, report status, collection date, collection method, specimen site, test ordered, test results, organism identified/result other than organism, method type, result unit, test interpretation, susceptibility test interpretation, test status	Information Location-Identity/Information Correlation	Edge	Bio			Seems like more than Identity/Information Correlation	
639	IBM-207-19	Consumer System-PHR	May	Maintain an XDS repository following pre-population	Information Location-Identity/Information Correlation	Edge	CE - Consumer	IBM-205-19		Exact duplicate	
445	CSC-EHR-460	MPI	May	Be used locally within a CDO or SNO to allow a clinician to browse and select from among candidate patient matches.	Information Location-Identity/Information Correlation	Edge	EHR - Lab		X	Equivalent of N and E	
599	IBM-205-06	CDO-CDO NHIN Interface	1 Shall	Contain one Record Locator Service (RLS) for NHIN searches	Information Location-Record Location	Core	Infrastructure	IBM-207-06 IBM-209-13	N		
600	IBM-205-07	CDO-CDO NHIN Interface	1 Shall	Require that the requesting institution provide appropriate demographic information (presumably brokered by the PHR vendor in this instance) to query data in the NHIN. Data required is determined by the community.	Information Location-Record Location	Core	Infrastructure	IBM-207-07 IBM-209-14		See Identity/Information Correlation. Why is this coming only from PHR vendor?	
626	IBM-207-06	CDO-CDO NHIN Interface	1 Shall	Contain one Record Locator Service (RLS) for NHIN searches	Information Location-Record Location	Core	Infrastructure	IBM-205-06 IBM-209-13		Exact duplicates	
678	IBM-209-13	CDO-CDO NHIN Interface	1 Shall	Contain one Record Locator Service (RLS) for NHIN searches	Information Location-Record Location	Core	Infrastructure	IBM-205-06 IBM-209-13		Exact duplicates	
680	IBM-209-15	CDO-CDO NHIN Interface	1 Shall	Specify what marketplaces the Record Locator should search	Information Location-Record Location	Core	Infrastructure	IBM-209-33 ACN-02.3.10 ACN-02.3.1 CSC-ALL-270	N		
36	ACN-02.3.10	Message Handling	1 Shall	Notify requesting edge systems that identified edge systems contain the requested data.	Information Location-Record Location	Core	Infrastructure	IBM-209-33 IBM-209-15 ACN-02.3.1 CSC-ALL-270	N		FHA
35	ACN-02.3.1	NHIN Administration-Audit Trail	1 Shall	Notify users when edge systems do not contain any data about the requested patient.	Information Location-Record Location	Core	CE, EHR	IBM-209-33 ACN-02.3.10 IBM-209-15 CSC-ALL-270	N		
319	CSC-ALL-270	RLS	1 Shall	Return pointers that enable retrieval of patient records from data sources / repositories	Information Location-Record Location	Core	Infrastructure	IBM-209-33 ACN-02.3.10 ACN-02.3.1 IBM-209-15	N		FHA
601	IBM-205-08	RLS	1 Shall	Support HL7 R2.4 and 3.0 feeds as incoming queries	Information Location-Record Location	Core	Infrastructure	IBM-207-08 IBM-209-16	N	Other HITSP standards may also have such feeds	

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602	IBM-205-09	RLS	1 Shall	Return one or more patients to the requesting consumer who meet the community defined minimum level of matching probability	Information Location-Record Location	Core	Infrastructure	IBM-207-09 IBM-209-18		See Identity/Information Correlation.	
604	IBM-205-11	RLS	1 Shall	Not return any clinical data; RLS shall only present links to appropriate records for NHIN queries	Information Location-Record Location	Core	Infrastructure	IBM-207-11 IBM-209-20 IBM-209-33 ACN-02.3.10 ACN-02.3.1 IBM-209-15	N	Combined	
606	IBM-205-13	RLS	1 Shall	Present the retrieved records to allow for aggregation	Information Location-Record Location	Core	Infrastructure			Seems contradictory to IBM-205-11 and CSC-CE-480	
633	IBM-207-13	RLS	1 Shall	Present the retrieved records to allow for aggregation	Information Location-Record Location	Core	Infrastructure	IBM-209-22 IBM-205-13		Exact duplicate	
665	IBM-208-05	RLS	1 Shall	Maintain list of published documents	Information Location-Record Location	Core	Infrastructure			Seems to assume an architecture	
682	IBM-209-17	RLS	1 Shall	Employ probabilistic matching for patient queries	Information Location-Record Location	Core	Infrastructure			Should be included in Identity/Information Correlation	
687	IBM-209-23	RLS	1 Shall	Also query remote marketplaces if such a request is made by the CDO administrator	Information Location-Record Location	Core	Infrastructure	IBM-209-15	N	Combined	
690	IBM-209-26	RLS	1 Shall	Receive notification from remote marketplace for data location request message	Information Location-Record Location	Core	Infrastructure		N		
691	IBM-209-27	RLS	1 Shall	Receive data locations from remote marketplaces	Information Location-Record Location	Core	Infrastructure		N		
692	IBM-209-28	RLS	1 Shall	Send error message to remote marketplace(s) if not authenticated or if content of data locations are not verified	Information Location-Record Location	Core	Infrastructure			See Security: Authentication	
693	IBM-209-29	RLS	1 Shall	Send acknowledgement to remote marketplace for successful receipt of data location message	Information Location-Record Location	Core	Infrastructure	IBM-305-03		See Data Quality/Integrity	
694	IBM-209-30	RLS	1 Shall	Log interaction with remote marketplace	Information Location-Record Location	Core	Infrastructure			See Audit & Logging	
695	IBM-209-31	RLS	1 Shall	Send data location information from remote marketplace to authorized requesting CDO administrator	Information Location-Record Location	Core	Infrastructure	ACN-02.3.10 IBM-209-33 IBM-209-15 ACN-02.3.1 CSC-ALL-270	N	Combined	
1036	NGIT-010	RLS	1 Shall	Query data sources for requested data and return data to requestor	Information Location-Record Location	Core	Infrastructure		N		

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444	CSC-EHR-450	CDO-CDO NHIN Interface	May	Route queries to the Record Locator Service in order to resolve patient identity ambiguities and locate records. Record locations returned to the NHIN Interface are used for routing the query to the proper repositories for processing.	Information Location-Record Location	Core	EHR - Lab		E	See Identity/Information Correlation	
397	CSC-CE-480	Consumer System-PHR	1 Shall	Not store location information in the Patient Matching service.	Information Location-Record Location	Edge	CE - Consumer	IBM-205-11 CSC-ALL-270	N	Combined	
124	ACN-05.1.2	NHIN Overarching (ACN)	1 Shall	Ensure that data integrity is maintained.	Non-Functional-Accuracy	Core	Infrastructure				
316	CSC-ALL-240	RLS	1 Shall	Match patient Identities with a rate of false positive identifications less than one in 100,000.	Non-Functional-Accuracy	Core	Infrastructure				
451	CSC-NFR-10	All Edge Systems (CSC)	1 Shall	Ensure that essential clinical data (to be defined by the SNO) maintains accuracy to of no less than 99.99%, where accuracy is defined as: data displayed to user is semantically equal to the version stored in original data source	Non-Functional-Accuracy	Edge	Infrastructure				
618	IBM-205-25	Consumer System-PHR	1 Shall	Review and validate populated PHR record	Non-Functional-Accuracy	Edge	CE - Consumer				
645	IBM-207-25	Consumer System-PHR	1 Shall	Review and validate updated PHR record	Non-Functional-Accuracy	Edge	CE - Consumer				
650	IBM-207-30	Consumer System-PHR	1 Shall	Receive modified registration and medication history, if appropriate, back from the consumer	Non-Functional-Accuracy	Edge	CE - Consumer				
462	CSC-NFR-20	Health Information Intermediaries	1 Shall	Support patient safety through transmitting clinical data fully and accurately, by logging and making displayable all intermediate data transformations	Non-Functional-Accuracy	Edge	Infrastructure				
595	IBM-205-02	Consumer System-PHR	May	Confirm with the consumer that the system will request information from data and network systems	Non-Functional-Accuracy	Edge	CE - Consumer	IBM-207-02			
596	IBM-205-03	Consumer System-PHR	May	Receive and validate the query request	Non-Functional-Accuracy	Edge	CE - Consumer	IBM-207-03			
649	IBM-207-29	Consumer System-PHR	May	Restrict how data fields will be annotated/modified.	Non-Functional-Accuracy	Edge	CE - Consumer				
308	CSC-ALL-10	CDO-CDO NHIN Interface	1 Shall	Be shared between all entities in a single RHIO or SNO. There is only one NHIN Interface in a SNO, and it is used for all communications with other SNOs over the NHIN.	Non-Functional-Business Rules	Core	Infrastructure				

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346	CSC-ALL-760	CDO-CDO NHIN Interface	1 Shall	Use the Record Locator Service to resolve ambiguities in the patient's identity, and to locate repositories of data, within the SNO, for that patient.	Non-Functional-Business Rules	Core	Infrastructure				
115	ACN-05	NHIN Overarching (ACN)	1 Shall	Enforce membership rules for edge systems.	Non-Functional-Business Rules	Core	Infrastructure				
313	CSC-ALL-210	RLS	1 Shall	Store only patient names and demographics, along with pointers to Repositories containing data for the Patient.	Non-Functional-Business Rules	Core	Infrastructure				
315	CSC-ALL-230	RLS	1 Shall	Not maintain pointers to individual health records, for example not maintain a separate pointer to a particular Lab order.	Non-Functional-Business Rules	Core	Infrastructure				
318	CSC-ALL-260	RLS	1 Shall	Not allow clinician interaction to ascertain the identities of patients in other SNOs.	Non-Functional-Business Rules	Core	Infrastructure				
465	CSC-NFR-230	CDO-CDO NHIN Interface	2 Should	Entail low Deployment and Operational Costs, commensurate with technology and investment capacity of the health market.	Non-Functional-Business Rules	Core	Infrastructure				
369	CSC-BIO-070	All Edge Systems (CSC)	1 Shall	Use HITSP implementation guidelines to implement interoperable solutions	Non-Functional-Business Rules	Edge	Bio				
395	CSC-CE-400	Consumer System-PHR	1 Shall	Only be allowed to query the NHIN interface, and be queriable over the NHIN, if it is a full member of a SNO.	Non-Functional-Business Rules	Edge	CE - Consumer				
335	CSC-ALL-550	Repositories	2 Should	Exist within a SNO, but are Edge systems and not essential to the NHIN.	Non-Functional-Business Rules	Edge	Infrastructure				
118	ACN-05.1.1.1	Data Analysis and Secondary Use Systems	1 Shall	Make public health information available within 24 hours of creation.	Non-Functional-Performance	Core	Infrastructure	IBM-102-11 IBM-103-11 ACN-06.1.12 NGIT-159 CSC-BIO-560			
119	ACN-05.1.1.2	Message Handling	1 Shall	Respond to message requests within an agreed upon time.	Non-Functional-Performance	Core	Infrastructure	ACN-05.1.1.3			
574	IBM-107-08	Message Handling	1 Shall	Send biosurveillance event response 'broadcast" messages in real time	Non-Functional-Performance	Core	Biosurveillance				
116	ACN-05.1	NHIN Administration	1 Shall	Abide by Service Level Agreements (SLA).	Non-Functional-Performance	Core	Infrastructure				
121	ACN-05.1.1.4	NHIN Administration	1 Shall	Respond to non-messaging requests for information within an agreed upon time.	Non-Functional-Performance	Core	Infrastructure				
605	IBM-205-12	RLS	1 Shall	Send result location (links) pointers for data located in local community repositories to authorized clinician within 5 seconds of receiving the request	Non-Functional-Performance	Core	Infrastructure				

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632	IBM-207-12	RLS	1 Shall	Send result location (links) pointers for data located in local community repositories to authorized clinician within 5 seconds of receiving the request	Non-Functional-Performance	Core	Infrastructure				
685	IBM-209-21	RLS	1 Shall	Send result location (links) pointers for data located in local community repositories to authorized clinician within 5 seconds of receiving the request	Non-Functional-Performance	Core	Infrastructure				
696	IBM-209-32	RLS	1 Shall	Send data location information from remote marketplace to authorized requesting clinician within 30 seconds of receiving request	Non-Functional-Performance	Core	Infrastructure				
805	IBM-305-12	RLS	1 Shall	Send notifications of new lab test result availability in real time when received from repository	Non-Functional-Performance	Core	EHR - Lab				
868	IBM-307-48	RLS	1 Shall	Send result location (links) pointers for data located in local community repositories to authorized clinician within 5 seconds of receiving the request	Non-Functional-Performance	Core	EHR - Lab				
869	IBM-307-49	RLS	1 Shall	Send data location information from remote marketplace to authorized requesting clinician within 30 seconds of receiving	Non-Functional-Performance	Core	EHR - Lab				
470	CSC-NFR-40	CDO-CDO NHIN Interface	2 Should	Be efficient and not consume more computer resources than is directly useful to the data exchange process [Efficiency]	Non-Functional-Performance	Core	Infrastructure				
676	IBM-209-11	CDO	1 Shall	Present data within via web portal in 5 seconds	Non-Functional-Performance	Edge	CE - Consumer				
615	IBM-205-22	Consumer System-PHR	1 Shall	Present retrieved data from medication brokers within 5 seconds	Non-Functional-Performance	Edge	CE - Consumer				
642	IBM-207-22	Consumer System-PHR	1 Shall	Present retrieved data from medication brokers within 5 seconds	Non-Functional-Performance	Edge	CE - Consumer				
120	ACN-05.1.1.3	Message Handling	1 Shall	Respond to message requests within an agreed upon time.	Non-Functional-Performance	Edge	Infrastructure	ACN-05.1.1.2			
122	ACN-05.1.1.5	NHIN Administration	1 Shall	Respond to non-messaging requests for information within an agreed upon time.	Non-Functional-Performance	Edge	Infrastructure				
779	IBM-304-13	Repositories	1 Shall	Send lab result event location and related information to locator service in real time as received from lab	Non-Functional-Performance	Edge	EHR - Lab				
903	IBM-309-11	Repositories	1 Shall	Transmit lab results requested by a clinician (clinician or data stager) within 5 seconds of successful receipt of request	Non-Functional-Performance	Edge	EHR - Lab				
469	CSC-NFR-30	Health Information Intermediaries	2 Should	Comply with "service level agreements" based on end-user / health market specified quality-of-service agreements	Non-Functional-Performance	Edge	Infrastructure				
523	IBM-102-11	CDO	1 Shall	Send biosurveillance data within 24 hours of the event	Non-Functional-Performance		Bio	IBM-103-11 CSC-BIO-010 NGIT-159 CSC-BIO-110			

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457	CSC-NFR-150	CDO-CDO NHIN Interface	1 Shall	Be extensible to new message types in a modular fashion; without requiring any changes to the application for the heretofore handled messages	Non-Functional-Robustness	Core	Infrastructure				
460	CSC-NFR-180	CDO-CDO NHIN Interface	1 Shall	Provide testing facilities to enable verification of new functionality before deployment to production environments [Testability]	Non-Functional-Robustness	Core	Infrastructure				
461	CSC-NFR-190	CDO-CDO NHIN Interface	1 Shall	Provide for remote monitoring of operations, detection of potential problems, and preventive maintenance measures [Manageability]	Non-Functional-Robustness	Core	Infrastructure				
232	ACN-07.18	NHIN Overarching (ACN)	1 Shall	Implement security best practices at all levels in the NHIN environment.	Non-Functional-Robustness	Core	Infrastructure				
233	ACN-07.18.1	NHIN Overarching (ACN)	1 Shall	Ensure that only required components are enabled/activated for NHIN infrastructure.	Non-Functional-Robustness	Core	Infrastructure	ACN-07.18.2 ACN-07.18.3			
236	ACN-07.18.4	NHIN Overarching (ACN)	1 Shall	Enforce compliance with an established password policy.	Non-Functional-Robustness	Core	Infrastructure				
237	ACN-07.18.5	NHIN Overarching (ACN)	1 Shall	Ensure that the system is protected against the introduction of malware into the environment.	Non-Functional-Robustness	Core	Infrastructure				
238	ACN-07.18.6	NHIN Overarching (ACN)	1 Shall	Ensure that only required application functionalities are enabled/activated.	Non-Functional-Robustness	Core	Infrastructure				
239	ACN-07.18.7	NHIN Overarching (ACN)	1 Shall	Limit functionality that can be accessed remotely.	Non-Functional-Robustness	Core	Infrastructure				
240	ACN-07.18.8	NHIN Overarching (ACN)	1 Shall	Ensure that data is transmitted securely between system endpoints.	Non-Functional-Robustness	Core	Infrastructure				
241	ACN-07.18.9	NHIN Overarching (ACN)	1 Shall	Secure all hardware against damage and unauthorized modification.	Non-Functional-Robustness	Core	Infrastructure				
242	ACN-07.19	NHIN Overarching (ACN)	1 Shall	Ensure that controls are applied to prevent unauthorized access to the network.	Non-Functional-Robustness	Core	Infrastructure				
243	ACN-07.19.1	NHIN Overarching (ACN)	1 Shall	Ensure that controls are applied to prevent unauthorized traffic from entering the network.	Non-Functional-Robustness	Core	Infrastructure				
244	ACN-07.19.2	NHIN Overarching (ACN)	1 Shall	Segregate the network by environments, including but not limited to development, testing and production.	Non-Functional-Robustness	Core	Infrastructure				
452	CSC-NFR-100	CDO-CDO NHIN Interface	2 Should	Allow users to install and operate with not more than 4 hours of training [Ease of learning]	Non-Functional-Robustness	Core	Infrastructure				

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456	CSC-NFR-140	CDO-CDO NHIN Interface	2 Should	Be configurable and extendable to support existing and new workflows	Non-Functional-Robustness	Core	Infrastructure				
458	CSC-NFR-160	CDO-CDO NHIN Interface	2 Should	Enable remote troubleshooting and deployment of application fixes (patches) [Supportable]	Non-Functional-Robustness	Core	Infrastructure				
459	CSC-NFR-170	CDO-CDO NHIN Interface	2 Should	Enable problems to be traced and analyzed, so that they can be resolved [Maintainable]	Non-Functional-Robustness	Core	Infrastructure				
473	CSC-NFR-70	CDO-CDO NHIN Interface	2 Should	Support reliable messaging between edge applications that are engaged in the data exchange process	Non-Functional-Robustness	Core	Infrastructure				
474	CSC-NFR-80	CDO-CDO NHIN Interface	2 Should	Plan and implement recovery procedures in case of failure of any of its discrete architectural components; recovery times range from near-real time to deferred based on the requirements (and investment) of the health markets [High Availability]	Non-Functional-Robustness	Core	Infrastructure				
475	CSC-NFR-90	CDO-CDO NHIN Interface	2 Should	Tolerate errors in data exchange messages and files, as well as other exception conditions, and not disrupt other edge applications in the user work environment. [Fault tolerance]	Non-Functional-Robustness	Core	Infrastructure				
255	ACN-07.21	CDO	1 Shall	Implement security best practices at all levels in the Edge Systems environment.	Non-Functional-Robustness	Edge	Infrastructure				
256	ACN-07.21.1	CDO	1 Shall	Ensure that only required components are enabled/activated for Edge System infrastructure .	Non-Functional-Robustness	Edge	Infrastructure				
257	ACN-07.21.2	CDO	1 Shall	Ensure that only required components are enabled/activated for Edge System operating systems.	Non-Functional-Robustness	Edge	Infrastructure				
258	ACN-07.21.3	CDO	1 Shall	Ensure that only required components are enabled/activated for Edge System applications.	Non-Functional-Robustness	Edge	Infrastructure				
260	ACN-07.21.5	CDO	1 Shall	Ensure that the system is protected against the introduction of malware into the environment.	Non-Functional-Robustness	Edge	Infrastructure				
261	ACN-07.21.6	CDO	1 Shall	Ensure that only required application functionalities are enabled/activated.	Non-Functional-Robustness	Edge	Infrastructure				
262	ACN-07.21.7	CDO	1 Shall	Limit functionality that can be accessed remotely.	Non-Functional-Robustness	Edge	Infrastructure				
263	ACN-07.21.8	CDO	1 Shall	Ensure that data is transmitted securely between system endpoints.	Non-Functional-Robustness	Edge	Infrastructure				
267	ACN-07.22.2	CDO	1 Shall	Segregate the network by environments, including but not limited to development, testing and production.	Non-Functional-Robustness	Edge	Infrastructure				

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286	ACN-07.32	CDO	1 Shall	Ensure that the system is protected against the introduction of malware into the environment.	Non-Functional-Robustness	Edge	Infrastructure				
289	ACN-07.33.2	CDO	1 Shall	Segregate the network by environments, including but not limited to development, testing and production.	Non-Functional-Robustness	Edge	Infrastructure				
290	ACN-07.34	CDO	1 Shall	Ensure that data is transmitted securely between system endpoints.	Non-Functional-Robustness	Edge	Infrastructure				
123	ACN-05.1.1.6	NHIN Administration	1 Shall	Notify the NHIN of any relevant changes to their system.	Non-Functional-Robustness	Edge	Infrastructure				
476	CSC-NFR-95	All Edge Systems (CSC)	2 Should	Tolerate problems caused by duplicate data received from one or several sources [Fault tolerance]	Non-Functional-Robustness	Edge	Infrastructure				
468	CSC-NFR-260	All Edge Systems (CSC)	May	Allow the data exchange services and policies of the local CDO to be discovered electronically	Non-Functional-Robustness	Edge	Infrastructure				
317	CSC-ALL-250	MPI	May	Allow for clinician interaction to ascertain the identities of patients within the SNO	Non-Functional-Robustness	Edge	Infrastructure				
73	ACN-02.6	NHIN Overarching (ACN)	1 Shall	Process and communicate data to scale as edge systems grow over time.	Non-Functional-Scalability	Core	Infrastructure				
472	CSC-NFR-60	CDO-CDO NHIN Interface	2 Should	Be modularly expandable to support higher transaction volumes as usage of the NHIN increases	Non-Functional-Scalability	Core	Infrastructure				
658	IBM-207-38	Consumer System-PHR	1 Shall	Receive request from consumer to close PHR account	Non-Functional-Scalability	Edge	CE - Consumer				
471	CSC-NFR-50	Health Information Intermediaries	2 Should	Support modular addition of processing and storage resources to cater to additional users as the usage of the NHIN increases	Non-Functional-Scalability	Edge	Infrastructure				
667	IBM-209-02	CDO	1 Shall	Submit authentication information to the NHIN Interface [to view/access registration/medication history]	Security-Authentication	Core	Infrastructure		E		
1030	NGIT-004	CDO-CDO NHIN Interface	1 Shall	Authenticate entity for NHIN data request	Security-Authentication	Core	Infrastructure	NGIT-129 NGIT-094	N	Combined	
1108	NGIT-129	CDO-CDO NHIN Interface	1 Shall	Authenticate entity for NHIN access	Security-Authentication	Core		IBM-209-02 NGIT-094	N	Combined	
1078	NGIT-094	Consumer System- Consumer NHIN Interface	1 Shall	Authenticate entity requesting data	Security-Authentication	Core	CE - Consumer	IBM-209-02 NGIT-129	N	Combined	
297	ACN-07.6	External User interfaces	1 Shall	Provide a secure and robust user authentication mechanism.	Security-Authentication	Core	Infrastructure	ACN-07.6.1	N	Combined. "Secure and robust" probably a policy issue.	FHA
298	ACN-07.6.1	External User interfaces	1 Shall	Authenticate all users before a connection to the NHIN is allowed.	Security-Authentication	Core	Infrastructure	CSC-SEC-50 ACN-07.6	N	Combined	

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299	ACN-07.6.2	External User interfaces	1 Shall	Protect user authentication credentials during transmission from the user to the NHIN.	Security-Authentication	Core	Infrastructure	ACN-07.8.3	N	Combined	
300	ACN-07.6.3	External User interfaces	1 Shall	Require multiple-factor authentication for users.	Security-Authentication	Core	Infrastructure			Seems to suggest policy (and more stringent requirement than HIPAA at §164.312(d))	
301	ACN-07.6.4	External User interfaces	1 Shall	Permit single session authentication that allows user access to different applications within the NHIN.	Security-Authentication	Core	Infrastructure			Seems to suggest an architecture such as single sign on	FHA
125	ACN-05.1.2.1	NHIN Administration-Organization Registration	1 Shall	Accept data only from certified members.	Security-Authentication	Core	Infrastructure			Seems to suggest an architecture of membership. See also Credentialing	
1027	NGIT-001	NHIN Administration-Organization Registration	1 Shall	Support the definition of organizations (entities) connecting to a NHIN	Security-Authentication	Core	Infrastructure			See also Credentialing	
302	ACN-07.7	NHIN Overarching (ACN)	1 Shall	Provide a mechanism for ensuring non-repudiation.	Security-Authentication	Core	Infrastructure		N	Not explicitly required by HIPAA	FHA
303	ACN-07.8	NHIN Overarching (ACN)	1 Shall	Provide a secure and robust system authentication mechanism.	Security-Authentication	Core	Infrastructure	ACN-7.8.1 ACN-07.8.2	N	Combined	
304	ACN-07.8.1	NHIN Overarching (ACN)	1 Shall	Authenticate all systems before connection to the NHIN is allowed.	Security-Authentication	Core	Infrastructure	ACN-7.8 ACN-07.8.2	N		
305	ACN-07.8.2	NHIN Overarching (ACN)	1 Shall	Enforce mutual authentication between the NHIN and any Edge System.	Security-Authentication	Core	Infrastructure	ACN-7.8.1 ACN-07.8	N		
306	ACN-07.8.3	NHIN Overarching (ACN)	1 Shall	Protect system authentication credentials during transmission between Edge Systems and the NHIN.	Security-Authentication	Core	Infrastructure	ACN-07.6.2	N	Exists for users and systems, but not entities. Combined	
688	IBM-209-24	RLS	1 Shall	Authenticate to the remote record locater	Security-Authentication	Core	Infrastructure	IBM-209-25	N	Combined	
689	IBM-209-25	RLS	1 Shall	Receive error message if requesting locater is not authorized or if content of data request location is not verified	Security-Authentication	Core	Infrastructure	IBM-209-24	N	Combined	
795	IBM-305-02	RLS	1 Shall	Verify authenticity of lab data repository sending new lab result location information	Security-Authentication	Core	EHR - Lab	See Functions #2 on Categorization	N	Raised to generic level and combined with related functions	
825	IBM-307-05	RLS	1 Shall	Authenticates clinician requesting lab result location or sends message that not authenticated	Security-Authentication	Core	EHR - Lab	See Functions #2 on Categorization	N	Raised to generic level and combined with related functions	

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372	CSC-BIO-120	All Edge Systems (CSC)	1 Shall	Provide levels of confidentiality, integrity, and availability meeting legal, regulatory requirements and protecting information appropriate with its value	Security-Authentication	Edge	Bio			Seems very broad	
496	CSC-SEC-50	All Edge Systems (CSC)	1 Shall	Authenticate user accesses into the system	Security-Authentication	Edge	Infrastructure	ACN-07.6.1 CSC-EHR-430	E	Equivalent of N. Combined	
307	ACN-07.9	CDO	1 Shall	Provide a mechanism for ensuring non-repudiation.	Security-Authentication	Edge	Infrastructure	ACN-07.7	E	Equivalent of N	
442	CSC-EHR-430	CDO	1 Shall	Authorize and authenticate users making use of CDO Systems and the NHIN Interface.	Security-Authentication	Edge	EHR - Lab	CSC-SEC-50	E	Combined	
666	IBM-209-01	CDO	1 Shall	Submit authentication information to the PHR provider [to view/access registration/medication history]	Security-Authentication	Edge	CE - Consumer	ACN-07.6.1 CSC-EHR-430	E	Equivalent of N	
811	IBM-306-03	CDO-EMR	1 Shall	Authenticate record locator sending notification of new lab result event messages	Security-Authentication	Edge	EHR - Lab	IBM-209-24	E	Equivalent of N. Applies to all Edge Systems	
823	IBM-307-03	CDO-EMR	1 Shall	Submit authentication information to locator system when querying for lab results location	Security-Authentication	Edge	EHR - Lab	IBM-209-24	E	Equivalent of N. Applies to all Edge Systems	
883	IBM-308-07	CDO-EMR	1 Shall	Submit authentication information to the data repository if sending data request directly to data repository	Security-Authentication	Edge	EHR - Lab	IBM-209-02 NGIT-129 NGIT-094 and IBM-311-03	E	Equivalent of N. Combined	
918	IBM-311-03	CDO-EMR	1 Shall	Authenticate entity sending lab results to EMR	Security-Authentication	Edge	EHR - Lab	IBM-209-02 NGIT-129 NGIT-094 and IBM-308-07	E	Equivalent of N. Combined	
583	IBM-201-03	Consumer System-PHR	1 Shall	Accept first time log-in identification data from consumer	Security-Authentication	Edge	CE - Consumer		X		FHA
585	IBM-201-05	Consumer System-PHR	1 Shall	Prompt consumer to create a unique log-in mechanism after first time validation	Security-Authentication	Edge	CE - Consumer		X		
584	IBM-201-04	Consumer System-PHR--PHR Registration info	1 Shall	Reconcile consumer provided first time log-in information and authenticate consumer. 1) allow the consumer to proceed or 2) reject consumer	Security-Authentication	Edge	CE - Consumer		X		
586	IBM-202-01	Consumer System-PHR--PHR Registration info	1 Shall	Prompt consumer for uniquely identifying information when logging in (not first time)	Security-Authentication	Edge	CE - Consumer		X		

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592	IBM-204-01	Consumer System-PHR--PHR Registration info	1 Shall	Prompt consumer for uniquely identifying information during log-in (not first time)	Security-Authentication	Edge	CE - Consumer	IBM-206-01 IBM-210-01	X	Exact duplicate	
593	IBM-204-02	Consumer System-PHR--PHR Registration info	1 Shall	Establish consumer's identity and authorize based on information provided	Security-Authentication	Edge	CE - Consumer	IBM-202-02 IBM-206-02 IBM-210-02 NGIT-101	X		
546	IBM-104-04	Data Analysis and Secondary Use Systems-Public Health	1 Shall	Authenticate sender of public health data	Security-Authentication	Edge	Biosurveillance	IBM-209-02 NGIT-129 NGIT-094 and IBM-311-03	E	Equivalent of N and other E. Combined	
812	IBM-306-04	External User interfaces	1 Shall	Authenticate record locator sending notification of new lab result event messages	Security-Authentication	Edge	EHR - Lab	IBM-209-24 IBM-209-25	E	Equivalent of N and other E. Combined	
824	IBM-307-04	External User interfaces	1 Shall	Submit authentication information to locator system when querying for lab results location	Security-Authentication	Edge	EHR - Lab	IBM-209-24 IBM-209-25	E	Equivalent of N and other E. Combined	
884	IBM-308-08	External User interfaces	1 Shall	Submit authentication information to the data repository if sending data request directly to data repository	Security-Authentication	Edge	EHR - Lab	ACN-07.6 ACN-07.6.1 and CSC-SEC-50	E	Equivalent of N and other E. Combined	
1137	NGIT-162	External User interfaces	1 Shall	Authenticate user requesting data	Security-Authentication	Edge	EHR - Lab	ACN-07.6 ACN-07.6.1 and CSC-SEC-50	E	Equivalent of N and other E. Combined	
885	IBM-308-09	NHIN Administration-Data Stager (IBM)	1 Shall	Authenticate to data repository if submitting request for lab results on behalf of clinician	Security-Authentication	Edge	EHR - Lab	ACN-07.6 ACN-07.6.1 and CSC-SEC-50	E	Equivalent of N and other E. Combined	
1125	NGIT-150	Payer Systems	1 Shall	Authenticate user requesting data	Security-Authentication	Edge		ACN-07.6 ACN-07.6.1 and CSC-SEC-50	E	Rare mention of payer systems. Seems like this should not differ from any other systems	
769	IBM-304-03	Repositories	1 Shall	Verify authenticity of lab sending new lab result events	Security-Authentication	Edge	EHR - Lab	IBM-309-03	E	Equivalent of N. Combined	
778	IBM-304-12	Repositories	1 Shall	Authenticate to locator service when sending lab result event location information	Security-Authentication	Edge	EHR - Lab	IBM-209-24 IBM-209-25	E	Equivalent of N and other E. Combined	
895	IBM-309-03	Repositories	1 Shall	Authenticate system sending request for lab data	Security-Authentication	Edge	EHR - Lab	IBM-304-03	E	Equivalent of N. Combined	
1136	NGIT-161	Consumer System-	1 Shall	Authenticate the requesting data from external systems	Security-Authentication		CE - Consumer			This is authentication of data instead of entity, user, or system	

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177	ACN-07.12	CDO	1 Shall	Control Edge System access through structured Role Based Access Control (RBAC).	Security-Authorization	Core	Infrastructure			Seems to be policy in specifying a type of access control to which to authorize (even though RBAC seems to make sense)	FHA
178	ACN-07.12.1	CDO	1 Shall	Implement a RBAC model which is scalable and flexible.	Security-Authorization	Core	Infrastructure				
670	IBM-209-05	CDO-CDO NHIN Interface	1 Shall	Maintain a list of authorized users that can access the consumer's PHR data from the NHIN hub	Security-Authorization	Core	Infrastructure			Maintenance of list seems like a specific architecture	
672	IBM-209-07	CDO-CDO NHIN Interface	1 Shall	Authorize (or not) provider's request to access consumer's PHR data via the NHIN	Security-Authorization	Core	Infrastructure	NGIT-005 NGIT-151 ACN-07.11.3	N	Raised to generic level and combined with related functions	
1031	NGIT-005	CDO-CDO NHIN Interface	1 Shall	Authorize an entity's request for data	Security-Authorization	Core	Infrastructure	IBM-209-07 NGIT-151 ACN-07.11.3	N	Raised to generic level and combined with related functions	
1126	NGIT-151	CDO-CDO NHIN Interface	1 Shall	Authorize an entity's request for laboratory data	Security-Authorization	Core	EHR - Lab	NGIT-005 IBM-209-07 ACN07.11.3	N	Raised to generic level and combined with related functions	
168	ACN-07.11.11	External User interfaces	1 Shall	Provide a list of roles assigned to NHIN system users.	Security-Authorization	Core	Infrastructure			Seems like a business process	
169	ACN-07.11.2	External User interfaces	1 Shall	Assign all authorized NHIN users at least one NHIN-based user role, included but not limited to: Public Health Official, NHIN Administrator, ONC Super Administrator or NHIN Security Administrator.	Security-Authorization	Core	Infrastructure			Seems like a policy	
170	ACN-07.11.3	External User interfaces	1 Shall	Allow NHIN-based users to access only data sets associated with their assigned roles.	Security-Authorization	Core	Infrastructure	NGIT-005 IBM-209-07 NGIT-151	E	Seems to be a consequence of N function. See also Data Access & Updating	
171	ACN-07.11.4	External User interfaces	1 Shall	Associate a single role with any one user session.	Security-Authorization	Core	Infrastructure		N		
172	ACN-07.11.5	External User interfaces	1 Shall	Permit the Public Health Official role access to the reporting services.	Security-Authorization	Core	Infrastructure			Policy?	
173	ACN-07.11.6	External User interfaces	1 Shall	Permit the NHIN Administrator role access to administration services relating to NHIN users.	Security-Authorization	Core	Infrastructure			Policy?	
174	ACN-07.11.7	External User interfaces	1 Shall	Provide NHIN administration capabilities to be executed only by authorized NHIN users.	Security-Authorization	Core	Infrastructure	ACN-07.12.3 ACN-07.12.6	N	Combined	
175	ACN-07.11.8	External User interfaces	1 Shall	Permit the ONC Super Administrator role access to application, system and environment administrative resources.	Security-Authorization	Core	Infrastructure			Policy?	

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176	ACN-07.11.9	External User interfaces	1 Shall	Permit the NHIN Security Administrator role access to security-related data.	Security-Authorization	Core	Infrastructure			Policy?	
179	ACN-07.12.2	External User interfaces	1 Shall	Assign all Edge Systems at least one NHIN-based system permissions.	Security-Authorization	Core	Infrastructure			Policy?	
180	ACN-07.12.3	External User interfaces	1 Shall	Permit Edge Systems to access internal NHIN resources/services based on their system permission.	Security-Authorization	Core	Infrastructure	ACN-07.11.7 ACN-07.12.6	N	Combined	
181	ACN-07.12.4	External User interfaces	1 Shall	Permit authorized Edge Systems to interface with other Edge Systems based on their system permission.	Security-Authorization	Core	Infrastructure			Seems to suggest an architecture	
182	ACN-07.12.5	External User interfaces	1 Shall	Permit the NHIN Administrator role to manage RBAC authorizations between Edge Systems.	Security-Authorization	Core	Infrastructure			Seems to suggest an architecture	
183	ACN-07.12.6	External User interfaces	1 Shall	Create new Edge System permissions where there is a business requirement for the new permissions	Security-Authorization	Core	Infrastructure	ACN-07.12.3 ACN-07.11.7	N		
184	ACN-07.12.7	External User interfaces	1 Shall	Provide a list of permissions assigned to any Edge System.	Security-Authorization	Core	Infrastructure	ACN-07.12.3 ACN-07.11.7 ACN-07.12.6	N		
156	ACN-07.1	NHIN Administration	1 Shall	Provide consent management.	Security-Authorization	Core	Infrastructure	ACN-07.1.1 ACN-07.1.2 ACN-07.1.3 ACN-07.1.4 IBM-302-03	N		FHA
157	ACN-07.1.1	NHIN Administration-Consumer Authorization	1 Shall	Capture an individual's consent to sharing his/her data.	Security-Authorization	Core	Infrastructure	ACN-07.1 ACN-07.1.2 ACN-07.1.3 ACN-07.1.4 IBM-302-03	N	Raised to generic level and combined. See note at 200. In some cases "consent" and "permissions" seem to be used interchangeably. Need to define patient consent, patient permission, system permission. Is this function of N or each E?	
158	ACN-07.1.2	NHIN Administration-Consumer Authorization	1 Shall	Capture any change in an individual's consent to sharing his/her data.	Security-Authorization	Core	Infrastructure	ACN-07.1.1 ACN-07.1 ACN-07.1.3 ACN-07.1.4 IBM-302-03	N		
159	ACN-07.1.3	NHIN Administration-Consumer Authorization	1 Shall	Allow only authorized access to an individual's data based on their consent status.	Security-Authorization	Core	Infrastructure	ACN-07.1.1 ACN-07.1.2 ACN-07.1 ACN-07.1.4 IBM-302-03	N		
160	ACN-07.1.4	NHIN Administration-Consumer Authorization	1 Shall	Provide consent status to authorized requesting systems.	Security-Authorization	Core	Infrastructure	ACN-07.1.1 ACN-07.1.2 ACN-07.1.3 ACN-07.1 IBM-302-03	N		
758	IBM-302-03	NHIN Administration-Consumer Authorization	1 Shall	Store patient permissions for accessing data	Security-Authorization	Core	EHR - Lab	ACN-07.1.1 ACN-07.1.2 ACN-07.1.3 ACN-07.1	N		

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282	ACN-07.3.2	NHIN Administration-System Registration	1 Shall	Provide an appropriate Edge System registration capability before access to the NHIN is granted.	Security-Authorization	Core	Infrastructure	ACN-07.3 ACN-07.3.1 ACN-07.3.3	N	Combined. What is difference between Edge System registration and certification?	
283	ACN-07.3.3	NHIN Administration-System Registration	1 Shall	Provide an appropriate Edge System certification capability before access to the NHIN is granted.	Security-Authorization	Core	Infrastructure	ACN-07.3 ACN-07.3.1 ACN-07.3.2	N	Combined. What is difference between Edge System registration and certification?	
167	ACN-07.11.10	NHIN Administration-User Registration	1 Shall	Create new NHIN user roles where there is a business requirement for the new role.	Security-Authorization	Core	Infrastructure	ACN-07.12.3 ACN-07.12.6	N	Combined	
280	ACN-07.3	NHIN Administration-User Registration	1 Shall	Register NHIN users and Edge Systems that require access to the NHIN.	Security-Authorization	Core	Bio	ACN-07.3.1 ACN-07.3.2 ACN-07.3.3	N	Combined	
281	ACN-07.3.1	NHIN Administration-User Registration	1 Shall	Provide an appropriate NHIN user registration capability before access to the NHIN is granted.	Security-Authorization	Core	Bio	ACN-07.3 ACN-07.3.2 ACN-07.3.3	N	Combined	
165	ACN-07.11	NHIN Overarching (ACN)	1 Shall	Control NHIN user access through structured Role Based Access Control (RBAC).	Security-Authorization	Core	Infrastructure	ACN-07.12		Policy?	
166	ACN-07.11.1	NHIN Overarching (ACN)	1 Shall	Implement a RBAC model which is scalable and flexible.	Security-Authorization	Core	Infrastructure	ACN-07.12.1		Policy?	
835	IBM-307-15	RLS	1 Shall	Authorize release of laboratory test results locations based on regulations (federal, state, local), community policies, clinician status as ordering clinician, clinician status as provider of care for patient, patient consent restrictions and sensitivity restrictions	Security-Authorization	Core	EHR - Lab		X		
836	IBM-307-16	RLS	1 Shall	Confirm clinician status as ordering clinician for lab result	Security-Authorization	Core	EHR - Lab		X		
837	IBM-307-17	RLS	1 Shall	Confirm non-ordering clinician status as provider of care for patient	Security-Authorization	Core	EHR - Lab		X		
838	IBM-307-18	RLS	1 Shall	Confirm patient consent restrictions	Security-Authorization	Core	EHR - Lab		X		
839	IBM-307-19	RLS	1 Shall	Confirm non-ordering clinician credentials relative to sensitivity restrictions	Security-Authorization	Core	EHR - Lab			See Credentialing	
840	IBM-307-20	RLS	1 Shall	Send error message if clinician not authorized to access data for identified patient	Security-Authorization	Core	EHR - Lab			See Data Quality/Integrity	

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668	IBM-209-03	Consumer System-Consumer NHIN Interface	May	Maintain a queryable marketplace-based registry to correlate to possible PHRs	Security-Authorization	Core	Infrastructure			Seems to suggest a specific architecture	
357	CSC-ALL-890	All Edge Systems (CSC)	1 Shall	Send the identity and institution of the initiating user with each query message	Security-Authorization	Edge	Infrastructure			See Data Content	
497	CSC-SEC-60	All Edge Systems (CSC)	1 Shall	Establish user authorizations to use specific functions of the system	Security-Authorization	Edge	Infrastructure	ACN-07.3.1	E	Equivalent of N	
185	ACN-07.13	CDO	1 Shall	Control Edge System user access through structured Role Based Access Control (RBAC).	Security-Authorization	Edge	Infrastructure			Policy?	
186	ACN-07.13.1	CDO	1 Shall	Implement a RBAC model which is scalable and flexible.	Security-Authorization	Edge	Infrastructure			Policy?	
187	ACN-07.13.2	CDO	1 Shall	Strictly manage all internal user access requests through structured Role Based Access Control (RBAC).	Security-Authorization	Edge	Infrastructure			Policy?	
190	ACN-07.13.5	CDO	1 Shall	Designate an administrator role covering administration of internal resources.	Security-Authorization	Edge	Infrastructure	ACN-07.11.7	E	Equivalent of N	
191	ACN-07.13.6	CDO	1 Shall	Create new internal roles where there is a business requirement for the new role.	Security-Authorization	Edge	Infrastructure	ACN-07.11.10	E	Equivalent of N	
192	ACN-07.14	CDO	1 Shall	Permit access to an individual's data to Edge System users where there is a legitimate need.	Security-Authorization	Edge	CE, EHR		X		
193	ACN-07.15	CDO	1 Shall	Permit override of access restrictions to an individual's data by Edge System users.	Security-Authorization	Edge	CE, EHR	CSC-SEC-140		See Data Access & Update	
274	ACN-07.26	CDO	1 Shall	Ensure appropriate security controls exist to protect against unauthorized access to NHIN data or unauthorized access to systems with access to NHIN data.	Security-Authorization	Edge	Infrastructure			Broad technical control. See Authentication and Data Access & Update	
1091	NGIT-109	CDO	1 Shall	Authorize request for data	Security-Authorization	Edge	CE - Consumer		X		
398	CSC-CE-510	Consumer System-PHR	1 Shall	Authenticate the identity of the person requesting access to personal health information	Security-Authorization	Edge	CE - Consumer	IBM-207-40 NGIT-083 CSC-CE-750	X		
399	CSC-CE-520	Consumer System-PHR	1 Shall	Enable creation and modification of an access list of persons and entities authorized by the consumer to access their PHR account.	Security-Authorization	Edge	CE - Consumer		X		
591	IBM-203-04	Consumer System-PHR	1 Shall	Maintain an authorized access list to the consumer's PHR	Security-Authorization	Edge	CE - Consumer	IBM-209-04 CSC-CE-530	X		

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671	IBM-209-06	Consumer System-PHR	1 Shall	Authorize (or not) provider's request to access consumer's PHR	Security-Authorization	Edge	CE - Consumer	NGIT-095 CSC-CE-760	X		
1139	NGIT-164	Consumer System-PHR	1 Shall	Enable consumer to opt in or out of having data in PHR available to authorized entities	Security-Authorization	Edge	CE - Consumer		X		
582	IBM-201-02	Consumer System-PHR-- PHR Registration info	1 Shall	Prompt consumer for uniquely identifying information to allow for first time access to PHR	Security-Authorization	Edge	CE - Consumer		X		
543	IBM-104-01	Data Analysis and Secondary Use Systems-Public Health	1 Shall	Register CDO as authorized provider of biosurveillance data	Security-Authorization	Edge	Biosurveillance		N	This appears to be just another role	
188	ACN-07.13.3	External User interfaces	1 Shall	Implement internal user roles with the least privilege required to perform their job function, included but not limited to: Clinician, Nurse, Administrator, Security Administrator, Technician, Secretary, Individual (Patient) and Proxy.	Security-Authorization	Edge	Infrastructure		X		
189	ACN-07.13.4	External User interfaces	1 Shall	Permit internal users to only request NHIN resources for which they are authorized to access.	Security-Authorization	Edge	Infrastructure		X		
284	ACN-07.30	External User interfaces	1 Shall	Ensure the data sharing agreement is signed before sharing data with the NHIN.	Security-Authorization	Edge	Infrastructure			Seems to be a business process	
756	IBM-302-01	External User interfaces	1 Shall	Provide capability for consumer or proxy to provide list of providers of care to serve as consumer's authorization for data access and to automatically send results and notifications	Security-Authorization	Edge	EHR - Lab			Seems to be a business process and policy	
757	IBM-302-02	External User interfaces	1 Shall	Provide capability for consumer or proxy to indicate that test results should not be made available to providers of care other than the ordering clinician	Security-Authorization	Edge	EHR - Lab		X		
164	ACN-07.10.3	NHIN Administration	1 Shall	Allow authorized users to override view restrictions to specific data associated with an individual's clinical treatment.	Security-Authorization	Edge	CE, EHR		X	Consistent with HIPAA §164.522(a)(1)(iii)	
245	ACN-07.2	NHIN Administration	1 Shall	Provide consent management.	Security-Authorization	Edge	Infrastructure	ACN-07.1	E	Equivalent of N	
249	ACN-07.2.4	NHIN Administration	1 Shall	Permit consent override by authorized users.	Security-Authorization	Edge	Infrastructure		X		
161	ACN-07.10	NHIN Administration-Consumer Authorization	1 Shall	Implement a data restriction service.	Security-Authorization	Edge	CE, EHR			Seems to suggest a specific architecture	FHA

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162	ACN-07.10.1	NHIN Administration-Consumer Authorization	1 Shall	Allow users to restrict access to specific data associated with a clinical diagnosis and/or treatment.	Security-Authorization	Edge	CE, EHR		X		
163	ACN-07.10.2	NHIN Administration-Consumer Authorization	1 Shall	Indicate that certain data has been restricted from viewing.	Security-Authorization	Edge	CE, EHR		X		
194	ACN-07.15.1	NHIN Administration-Consumer Authorization	1 Shall	Permit individuals to select which users can view some or all of their data.	Security-Authorization	Edge	CE - Consumer	ACN-07.15.2	X		
196	ACN-07.15.3	NHIN Administration-Consumer Authorization	1 Shall	Permit view restriction override by authorized users.	Security-Authorization	Edge	CE - Consumer		X		
246	ACN-07.2.1	NHIN Administration-Consumer Authorization	1 Shall	Capture an individual's consent to sharing his/her data.	Security-Authorization	Edge	Infrastructure		X		
247	ACN-07.2.2	NHIN Administration-Consumer Authorization	1 Shall	Capture any change in an individual's consent to sharing his/her data.	Security-Authorization	Edge	Infrastructure		X		
248	ACN-07.2.3	NHIN Administration-Consumer Authorization	1 Shall	Allow only authorized access to an individual's data based on their consent status.	Security-Authorization	Edge	Infrastructure		X		
250	ACN-07.2.5	NHIN Administration-Consumer Authorization	1 Shall	Display the consent status.	Security-Authorization	Edge	Infrastructure		X		
513	IBM-102-01	NHIN Administration-Organization Registration	1 Shall	Register all public health agencies that are authorized to receive biosurveillance data from the CDOs	Security-Authorization	Edge	Biosurveillance	IBM-103-01	N	This appears to be just another role assigned to an Edge System	
295	ACN-07.4	NHIN Administration-System Registration	1 Shall	Register all internal systems that require access to the NHIN.	Security-Authorization	Edge	Infrastructure		N	This appears to be just another role assigned to an Edge System	
898	IBM-309-06	NHIN Administration-User Registration	1 Shall	Store non-ordering clinician credentials relative to sensitivity restrictions	Security-Authorization	Edge	EHR - Lab			Seems to mix patient restrictions and Credentialing	

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296	ACN-07.5	NHIN Overarching (ACN)	1 Shall	Certify that all internal systems meet NHIN security requirements for NHIN connectivity.	Security-Authorization	Edge	Infrastructure			Policy that appears more stringent than HIPAA risk management or evaluation requirements. See also Credentialing	
338	CSC-ALL-610	Repositories	1 Shall	Determine their own access control policies, respecting privacy concerns, sensitivity designations, policy, and/or other attributes	Security-Authorization	Edge	Infrastructure		X		
896	IBM-309-04	Repositories	1 Shall	Authorize release of laboratory test results based on verification as ordering clinician	Security-Authorization	Edge	EHR - Lab		X		
897	IBM-309-05	Repositories	1 Shall	Authorize release of laboratory test results to non-ordering clinicians based on regulations (federal, state, local) regulatory agencies, entity policies, sensitivity restrictions and patient consent restrictions	Security-Authorization	Edge	EHR - Lab		X		
899	IBM-309-07	Repositories	1 Shall	Confirm non-ordering clinician credentials relative to sensitivity restrictions	Security-Authorization	Edge	EHR - Lab		X		
900	IBM-309-08	Repositories	1 Shall	Confirm non-ordering clinician status as provider of care for patient	Security-Authorization	Edge	EHR - Lab		X		
901	IBM-309-09	Repositories	1 Shall	Confirm patient consent restrictions	Security-Authorization	Edge	EHR - Lab		X		
1127	NGIT-152	CDO-EMR	May	Authorize query request for lab result data	Security-Authorization	Edge	EHR - Lab		X		
1128	NGIT-153	CDO-LIS	May	Authorize query request for lab result data	Security-Authorization	Edge	EHR - Lab		X		
1068	NGIT-084	Consumer System-PHR	May	Enable consumer to define who has access to data within PHR	Security-Authorization	Edge	CE - Consumer	NGIT-163	X		
1129	NGIT-154	Health Information Intermediaries	May	Authorize query request for lab result data	Security-Authorization	Edge	EHR - Lab		X		
343	CSC-ALL-690	Repositories	May	Authorize access based on querying institution, and/or other criteria based on local policies and regulations.	Security-Authorization	Edge	Infrastructure		X		
486	CSC-SEC-190	CDO-CDO NHIN Interface	1 Shall	Enforce NHIN security and privacy policies.	Security-Confidentiality	Core	Infrastructure	IBM-107-09 ACN-07.20 ACN-07.20.1 ACN-07.20.2 ACN-07.20.3	N	Combined	

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519	IBM-102-07	CDO-CDO NHIN Interface	1 Shall	Attach randomized linker before transmission of patient specific data that supports ability to re-identify data when required as part of an authorized public	Security-Confidentiality	Core	Bio	NGIT-066 NGIT-069 NGIT-116	N/E	Seems to suggest an architecture that may be at N or E.	
534	IBM-103-07	CDO-CDO NHIN Interface	1 Shall	Attach randomized linker before transmission of patient specific data that supports ability to re-identify data when required as part of an authorized public	Security-Confidentiality	Core	Bio	IBM-102-07		Exact duplicate	FHA
1050	NGIT-066	CDO-CDO NHIN Interface	1 Shall	Anonymize data for transmission to public health agencies	Security-Confidentiality	Core	Bio	IBM-102-07 NGIT-069 NGIT-116	N/E	Seems to suggest an architecture that may be at N or E.	FHA
1053	NGIT-069	CDO-CDO NHIN Interface	1 Shall	Implement a randomized data linker (RDL) for biosurveillance data transmitted to public health agencies	Security-Confidentiality	Core	Bio	IBM-102-07 NGIT-066 NGIT-116	N/E	Seems to suggest an architecture that may be at N or E.	FHA
1095	NGIT-116	CDO-CDO NHIN Interface	1 Shall	Support re-linking identity information to anonymized data per RDL	Security-Confidentiality	Core	Bio	IBM-102-07 NGIT-066 NGIT-069	N/E	Seems to suggest an architecture that may be at N or E.	
524	IBM-102-12	Message Handling	1 Shall	Transmit data to public health agencies in secure manner	Security-Confidentiality	Core	Biosurveillance			Vague technical security control	
539	IBM-103-12	Message Handling	1 Shall	Transmit data to public health agencies in secure manner	Security-Confidentiality	Core	Biosurveillance	IBM-102-12		Exact duplicate	
575	IBM-107-09	Message Handling	1 Shall	Transmit the biosurveillance event response "broadcast" messages conforming to approved privacy, security and messaging standards as provided by HITSP or as determined by the marketplace in the absence of approved standards	Security-Confidentiality	Core	Biosurveillance	CSC-SEC-190 ACN-07.20 ACN-07.20.1 ACN-07.20.2 ACN-07.20.3	N		
251	ACN-07.20	NHIN Overarching (ACN)	1 Shall	Comply with accepted security policy, privacy and management standards.	Security-Confidentiality	Core	Infrastructure	CSC-SEC-190 IBM-107-09 ACN-07.20.1 ACN-07.20.2 ACN-07.20.3	N		
252	ACN-07.20.1	NHIN Overarching (ACN)	1 Shall	Ensure that system complies with data privacy standards.	Security-Confidentiality	Core	Infrastructure	CSC-SEC-190 IBM-107-09 ACN-07.20 ACN-07.20.2 ACN-07.20.3	N		
253	ACN-07.20.2	NHIN Overarching (ACN)	1 Shall	Ensure that system complies with HIPAA legislation.	Security-Confidentiality	Core	Infrastructure	CSC-SEC-190 IBM-107-09 ACN-07.20 ACN-07.20.1 ACN-07.20.3	N		
254	ACN-07.20.3	NHIN Overarching (ACN)	1 Shall	Ensure that system complies with applicable federal, state and local legislation.	Security-Confidentiality	Core	Infrastructure	CSC-SEC-190 IBM-107-09 ACN-07.20 ACN-07.20.1 ACN-07.20.2	N		

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477	CSC-SEC-10	All Edge Systems (CSC)	1 Shall	Protect confidentiality of data and services over the network using encryption.	Security-Confidentiality	Edge	Infrastructure	NGIT-006	N/E	Seems to apply to N and implies policy	FHA
484	CSC-SEC-170	All Edge Systems (CSC)	1 Shall	Establish, publish and implement security and privacy policies	Security-Confidentiality	Edge	Infrastructure		X		
488	CSC-SEC-210	All Edge Systems (CSC)	1 Shall	Provide patients with a method to chose to not participate in the NHIN.	Security-Confidentiality	Edge	Infrastructure		X		
489	CSC-SEC-212	All Edge Systems (CSC)	1 Shall	Provide patients with a method to keep specific data confidential.	Security-Confidentiality	Edge	Infrastructure		X		
490	CSC-SEC-220	All Edge Systems (CSC)	1 Shall	Upon request, provide patients with a list of institutions or providers requesting information about them.	Security-Confidentiality	Edge	Infrastructure		X		
268	ACN-07.23	CDO	1 Shall	Comply with accepted security policy, privacy and management standards.	Security-Confidentiality	Edge	Infrastructure		X		
271	ACN-07.23.3	CDO	1 Shall	Ensure that system complies with applicable federal, state and local legislation.	Security-Confidentiality	Edge	Infrastructure		X		
276	ACN-07.27.1	CDO	1 Shall	Ensure appropriate technical and procedural controls have been implemented to support the Information Security Policy.	Security-Confidentiality	Edge	Infrastructure		X		
277	ACN-07.27.2	CDO	1 Shall	Ensure that a robust monitoring capability exists to assure adherence and compliance to the Information Security Policy.	Security-Confidentiality	Edge	Infrastructure		X		
432	CSC-EHR-350	CDO	1 Shall	Provide patients with a method to indicate that a particular visit is confidential, and hence only the ordering clinician is to be notified.	Security-Confidentiality	Edge	EHR - Lab		X		
480	CSC-SEC-130	All Edge Systems (CSC)	2 Should	Detect network intrusions and log them.	Security-Confidentiality	Edge	Infrastructure		X		
487	CSC-SEC-200	All Edge Systems (CSC)	2 Should	Manage levels of patient consent, that are used to filter the release of health data from local data sources.	Security-Confidentiality	Edge	Infrastructure		X		
485	CSC-SEC-180	CDO	2 Should	Enforce CDO-to-CDO and CDO-to-NHIN security and privacy policies.	Security-Confidentiality	Edge	Infrastructure	CSC-SEC-190 IBM-107-09 ACN-07.20 ACN-07.20.1 ACN-07.20.2 ACN-07.20.3	N		
1044	NGIT-060	CDO	May	Anonymize data for transmission to public health agencies	Security-Confidentiality	Edge	Bio	IBM-102-06 IBM-103-06	N		
1054	NGIT-069a	CDO	May	Implement a randomized data linker (RDL) for biosurveillance data transmitted to public health agencies	Security-Confidentiality	Edge	Bio		N		
1032	NGIT-006	Message Handling	1 Shall	Support transport level security	Security-Confidentiality		Infrastructure	CSC-SEC-10	N	Combined	FHA

ID-ONC	ID	Entities	Entity – Property Relation	Property	Functional Categories	Entity Role (i.e., Core or Edge)	Principal Context	Closely resembles… (Added by NCVHS)	N = Network Functionality E = Edge System Networking Fcns X = Fcns eXclusive to Edge System	NCVHS Review Comments	Testimony from FHA
1096	NGIT-117	CDO	May	Support re-linking identity information to anonymized data per RDL	Security-Confidentiality		Bio	IBM-102-07 NGIT-066 NGIT-069 NGIT-116	N	Combined	
492	CSC-SEC-240	CDO-CDO NHIN Interface	1 Shall	Establish pairwise trust relationships with the entities of the RHIO or SNO.	Security-Credentialing	Core	Infrastructure	ACN-04.3 ACN-04.6	N	Combined	
108	ACN-04.3	NHIN Administration-User Registration	1 Shall	Register public health users to participate in the NHIN.	Security-Credentialing	Core	Biosurveillance	CSC-SEC-240 ACN-04.6	N		
111	ACN-04.6	NHIN Administration-User Registration	1 Shall	Register system administrators to participate in the NHIN.	Security-Credentialing	Core	Infrastructure	CSC-SEC-240 ACN-04.3	N		
588	IBM-203-01	Consumer System-PHR	1 Shall	Prompt the consumer to select what third-parties will have access to their PHR	Security-Credentialing	Edge	CE - Consumer		X		
99	ACN-04.1	NHIN Administration-User Registration	1 Shall	Register patients to participate in the NHIN.	Security-Credentialing	Edge	Infrastructure	ACN-04.2 ACN-04.4 ACN-04.5	E	Equivalent of N	
107	ACN-04.2	NHIN Administration-User Registration	1 Shall	Register providers to participate in the NHIN.	Security-Credentialing	Edge	CE, EHR	ACN-04.1 ACN-04.4 ACN-04.5	E	Equivalent of N	
109	ACN-04.4	NHIN Administration-User Registration	1 Shall	Register public health users to participate in the NHIN.	Security-Credentialing	Edge	Biosurveillance	ACN-04.1 ACN-04.2 ACN-04.5	E	Equivalent of N	
110	ACN-04.5	NHIN Administration-User Registration	1 Shall	Register system administrators to participate in the NHIN.	Security-Credentialing	Edge	Infrastructure	ACN-04.1 ACN-04.2 ACN-04.4	E	Equivalent of N	
493	CSC-SEC-250	NHIN Administration-User Registration	1 Shall	Maintain the identities of its Users, according to a written and approved security policy.	Security-Credentialing	Edge	Infrastructure		E		
589	IBM-203-02	Consumer System-PHR	May	Provide look-up and reconciliation service for third parties	Security-Credentialing	Edge	CE - Consumer		E		
590	IBM-203-03	Consumer System-PHR	May	Query against a provider directory provided by the marketplace	Security-Credentialing	Edge	CE - Consumer		X		

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The 1st Nationwide Health Information Forum: Functional Requirements will be held on June 28-29, 2006. This goal of this forum is to gain input on the functional requirements necessary to achieve a foundation for interoperable, standards-based network for the secure exchange of health care information and the input will inform next steps of NHIN process, CCHIT, HITSP and other ONC activities. A draft agenda for the Forum can be accessed at http://www.hhs.gov/healthit/NHIN_Forum1.html

Functional requirements are an expression of something a system must be able to do to support identified activites. This spreadsheet provides the initial set of 1139 functional requirements that have been submitted to the Office of the National Coordinator from the 4 NHIN consortia (Accenture, CSC, IBM, and Northrup Grumman). Requirements responded to general NHIN infrastructure needs, and in a more detailed way, to the Use Cases (Harmonized Use Cases are posted at http://www.hhs.gov/healthit/NHIN_Forum1.html). Requirements were submitted in a controlled format and with defined vocabulary (see NHIN Requirements Approach document provided as additonal background material at http://www.hhs.gov/healthit/NHIN_Forum1.html)

In addition, with an initial review a few additional columns were added to this spreadsheet:

1)   Closely resembles – identifies other requirements that are related or possible duplicative cited in the "closely resembles" column (the ID number, entity, entity-property relation, and property

3)   Initial Review Comments – in some cases, comments are provided on the requirements such as duplicate, policy related, feature, too broad, etc.

4)   Tentative Breakout Session No. (3 columns – Entity, Functional Categories, Use Cases)

There are two sheets provided in this file that contain requirements – the first contains 977 functional system requirements and the second contains 162 requirements that appear to be duplicates or policy related.

At the conclusion of the Forum, the requirements and the input that is received at the Forum will be handed off to a Working group of the National Committee of Vital and Health Statistics (NCVHS). NCVHS will work to refine the list and produce an initial set of requirements by September 2006. These requirements will detail common requirements among the different suggested approaches and help describe the architectural alternatives that will be worked though in follow-up activities.

ID-ONC	#	ID	Entities	Entity – Property Relation	Property	Functional Categories	Entity Role (i.e., Core or Edge)	Link to other requirements	Principal Context	Context Reference	Comments / Rationale	Closely resembles...	Associated Reference 1	Associated Reference 2	Associated Reference 3	Associated Reference 4	Associated Reference 5	Initial Review Comments	Tentative Entity Breakout Session No.	Tentative Functional Category Breakout Session No.	Tentative Use Case Breakout Session No.
336	1	CSC-ALL-60	All Edge Systems (CSC)	Shall	Transmit well formed messages according to a HITSP specified implementation instruction, when communicating with the NHIN Interface.	Data Content	Edge		Infrastructure			IBM-303-05	IBM-303-05 CDO-LIS Shall Adhere to approved content standards as provided by HITSP when sending lab results data to the repository.							3.1	4.4
365	1	CSC-ALL-980	All Edge Systems (CSC)	May	Allow the clinician to notify the holder of suspect data	Data Content-Data Quality/Data Integrity	Edge		Infrastructure		This notification may not necessarily be over the NHIN.										4.4
482	1	CSC-SEC-150	All Edge Systems (CSC)	Shall	Enforce non-repudiation of message or query origin	Data Content-Data Quality/Data Integrity	Edge		Infrastructure												4.4
483	1	CSC-SEC-160	All Edge Systems (CSC)	Should	Use HITSP-specified security tokens for trusted computer-to-computer authentication, computer authorization, and encryption.	Data Content-Data Quality/Data Integrity	Edge		Infrastructure		This does not include user authorization, which is addressed in SEC-050 and SEC-060.										4.4
494	1	CSC-SEC-30	All Edge Systems (CSC)	Shall	Send integrity verification information along with data sent over the network	Data Content-Data Quality/Data Integrity	Edge		Infrastructure												4.4
495	1	CSC-SEC-40	All Edge Systems (CSC)	Shall	Use integrity verification information to validate the integrity of data received across the network	Data Content-Data Quality/Data Integrity	Edge		Infrastructure												4.4
362	1	CSC-ALL-950	All Edge Systems (CSC)	Should	Display the results of queries that it initiates if the query was initiated through a human user interface.	Data Content-Data Usage	Edge		Infrastructure												4.4
363	1	CSC-ALL-960	All Edge Systems (CSC)	May	Persist the results of queries that it initiates.	Data Content-Data Usage	Edge		Infrastructure												4.4
364	1	CSC-ALL-970	All Edge Systems (CSC)	May	Print the results of queries that it displays	Data Content-Data Usage	Edge		Infrastructure												4.4
355	1	CSC-ALL-870	All Edge Systems (CSC)	May	Use the CDO NHIN Interface to query health data for a patient within a SNO.	Data Transaction-(Pull)	Edge		Infrastructure										3.2		4.4
356	1	CSC-ALL-880	All Edge Systems (CSC)	Shall	Use the CDO NHIN Interface to query outside the SNO for health data for a patient.	Data Transaction-(Pull)	Edge		Infrastructure										3.2		4.4
326	1	CSC-ALL-380	All Edge Systems (CSC)	May	Exchange messages with any other edge entity	Data Transaction-(Push)	Edge		Infrastructure										3.2		4.4
327	1	CSC-ALL-390	All Edge Systems (CSC)	May	Use the NHIN Interface as the intermediary for the distribution of messages to other entities within the SNO.	Data Transaction-(Push)	Edge		Infrastructure										3.2		4.4
329	1	CSC-ALL-400	All Edge Systems (CSC)	Shall	Use the NHIN Interface as the intermediary for the distribution of messages to entities in other SNOs.	Data Transaction-(Push)	Edge		Infrastructure										3.2		4.4
410	1	CSC-CE-640	All Edge Systems (CSC)	Shall	Log all account and account data accesses	Data Transaction-Audit & Logging	Edge	CSC-SEC-85	CE - Consumer	2.2.2.6, 2.2.3.4, 2.2.2.6, 2.3.2.6, 2.3.3.4, 2.4.1.5									3.2		4.3
449	1	CSC-EHR-500	All Edge Systems (CSC)	Should	Log all interactions.	Data Transaction-Audit & Logging	Edge	CSC-SEC-85	EHR - Lab	3.2.1.7, 3.2.3.5, 3.2.4.6, 3.3.1.3, 3.4.1.6, 3.4.2.3, 3.4.3.5, 3.5.2.6		CSC-SEC-85	CSC-SEC-85 All Edge Systems Should Log all interactions						3.2		4.1
478	1	CSC-SEC-110	All Edge Systems (CSC)	Shall	Protect audit data and other logged protected health information from unauthorized access and from any modification.	Data Transaction-Audit & Logging	Edge		Infrastructure										3.2		4.4
498	1	CSC-SEC-85	All Edge Systems (CSC)	Should	Log all interactions.	Data Transaction-Audit & Logging	Edge		Infrastructure			CSC-EHR-500	CSC-EHR-500 All Edge Systems Should Log all interactions						3.2		4.4
499	1	CSC-SEC-90	All Edge Systems (CSC)	Shall	Create an audit trail with sufficient information to trace each operation back to the originator, with the ability to audit according to requirements and local policy.	Data Transaction-Audit & Logging	Edge		Infrastructure										3.2		4.4
481	1	CSC-SEC-140	All Edge Systems (CSC)	May	Provide a "break-the-glass" function for authorized users to bypass normal security barriers during an emergency. If implemented, this should not be accomplished by using a generic login that obscures the identity of the user.	Data Transaction-Data Access and Update	Edge		Infrastructure		Although this functionality is excluded from the Use Cases, it is perceived to have future operational benefits in the health markets								3.2		4.4
331	1	CSC-ALL-420	All Edge Systems (CSC)	May	Determine the method of message delivery to the final destinations.	Data Transaction-Data Routing	Edge		Infrastructure										3.2		4.4
333	1	CSC-ALL-440	All Edge Systems (CSC)	May	Specify multiple destinations for a message, in order that the message transmission system may distribute the messages	Data Transaction-Data Routing	Edge		Infrastructure		This requirement is difficult to implement across all CDOs since there is no widely adopted methodology for identifying provider organizations and individuals.								3.2		4.4
360	1	CSC-ALL-930	All Edge Systems (CSC)	May	Specify various filters for returned data, for example filtering results on a specific lab order number.	Data Transformation-Data Filtering	Edge		Infrastructure										3.3		4.4
358	1	CSC-ALL-910	All Edge Systems (CSC)	May	Submit various identifiers to the NHIN Interface, to aid in ascertaining patient identity.	Information Location-Identity/Information Correlation	Edge		Infrastructure										3.4		4.4
359	1	CSC-ALL-920	All Edge Systems (CSC)	May	Interact with clinicians to determine identity of patients, using some form of local MPI, but this is not allowed for identities from other SNOs.	Information Location-Identity/Information Correlation	Edge		Infrastructure		Subject to local SNO policies								3.4		4.4
451	1	CSC-NFR-10	All Edge Systems (CSC)	Shall	Ensure that essential clinical data (to be defined by the SNO) maintains accuracy to of no less than 99.99%, where accuracy is defined as: data displayed to user is semantically equal to the version stored in original data source	Non-Functional-Accuracy	Edge		Infrastructure		We use the term Sub-Network Organization (SNO) to represent a group of healthcare entities that are contractually bound by common clinical data sharing policies, including security, privacy and technology standards. All RHIOs that use the NHIN are SNOs, but not all SNOs are organized on a regional basis. CSC architecture recommends distributing most of the storage and processing to edge systems, while providing a thin NHIN. In the context of the prototype implementation in the three health markets the terms SNO and health markets are interchangeable.								3.5		4.4
369	1	CSC-BIO-070	All Edge Systems (CSC)	Shall	Use HITSP implementation guidelines to implement interoperable solutions	Non-Functional-Business Rules	Edge	CSC-ALL-50, 60, 800	Bio	p03 s1									3.5		4.2
468	1	CSC-NFR-260	All Edge Systems (CSC)	May	Allow the data exchange services and policies of the local CDO to be discovered electronically	Non-Functional-Robustness	Edge		Infrastructure										3.5		4.4
476	1	CSC-NFR-95	All Edge Systems (CSC)	Should	Tolerate problems caused by duplicate data received from one or several sources [Fault tolerance]	Non-Functional-Robustness	Edge		Infrastructure	CE-p.9.s6.2.3, p.9.s6.3.3									3.5		4.4
372	1	CSC-BIO-120	All Edge Systems (CSC)	Shall	Provide levels of confidentiality, integrity, and availability meeting legal, regulatory requirements and protecting information appropriate with its value	Security-Authentication	Edge	BIO-530	Bio	p04 s2, p09 s5, p10 s6									3.6		4.2
496	1	CSC-SEC-50	All Edge Systems (CSC)	Shall	Authenticate user accesses into the system	Security-Authentication	Edge		Infrastructure			ACN-07.6.1	ACN-07.6.1 External User Interfaces Shall Authenticate all users before a connection to the NHIN is allowed.						3.6		4.4
357	1	CSC-ALL-890	All Edge Systems (CSC)	Shall	Send the identity and institution of the initiating user with each query message	Security-Authorization	Edge		Infrastructure										3.6		4.4
497	1	CSC-SEC-60	All Edge Systems (CSC)	Shall	Establish user authorizations to use specific functions of the system	Security-Authorization	Edge		Infrastructure										3.6		4.4
477	1	CSC-SEC-10	All Edge Systems (CSC)	Shall	Protect confidentiality of data and services over the network using encryption.	Security-Confidentiality	Edge		Infrastructure										3.6		4.4
480	1	CSC-SEC-130	All Edge Systems (CSC)	Should	Detect network intrusions and log them.	Security-Confidentiality	Edge		Infrastructure										3.6		4.4
484	1	CSC-SEC-170	All Edge Systems (CSC)	Shall	Establish, publish and implement security and privacy policies	Security-Confidentiality	Edge		Infrastructure										3.6		4.4
487	1	CSC-SEC-200	All Edge Systems (CSC)	Should	Manage levels of patient consent, that are used to filter the release of health data from local data sources.	Security-Confidentiality	Edge		Infrastructure										3.6		4.4
488	1	CSC-SEC-210	All Edge Systems (CSC)	Shall	Provide patients with a method to chose to not participate in the NHIN.	Security-Confidentiality	Edge		Infrastructure										3.6		4.4
489	1	CSC-SEC-212	All Edge Systems (CSC)	Shall	Provide patients with a method to keep specific data confidential.	Security-Confidentiality	Edge		Infrastructure										3.6		4.4
490	1	CSC-SEC-220	All Edge Systems (CSC)	Shall	Upon request, provide patients with a list of institutions or providers requesting information about them.	Security-Confidentiality	Edge		Infrastructure										3.6		4.4
435	1	CSC-EHR-380	CDO	May	Flag availability, and transmit lab results updates and corrections to the appropriate repositor(ies). The repository might be part of the same system, for example an EMR system, that received the results.	Data Content	Edge	CSC-ALL-380	EHR - Lab	3.2.2.0, 3.2.2.1, 3.3.1.2	EMRs may persist lab results in some SNOs, and LIS may do so in others								1.1	3.1	4.1
425	1	CSC-CE-850	CDO	May	Acknowledge completeness of data, and produce an exception list of validation errors to allow for human resolution	Data Content-Data Quality/Data Integrity	Edge	CSC-ALL-980	CE - Consumer	2.3.2.3a, 2.3.2.5									1.1		4.3
553	1	IBM-105-02	CDO	May	Be able to receive request to re-identify specified patient data to support event detection	Data Content-Data Quality/Data Integrity	Edge	IBM-105-01	Bio	1.z.1.2	5.1 PH Agency - Authorized Request to Re-identify Patient Data								1.1		4.2
376	1	CSC-BIO-250	CDO	May	Provide institution data including Hospital System, Main Facility ID/name, physical facility address, and total number of beds in institution	Data Content-Data Usage	Edge	CSC-SEC-220	Bio	p07 s3	For the Year 1 prototype, we will investigate supplying this information in a spreadsheet for each Market.	CSC-BIO-560	CSC-BIO-560 CDO May Send results (and requested meta data) to PH Agencie(s)						1.1		4.2
377	1	CSC-BIO-260	CDO	May	Provide Unit-level Census Data including unit name, number of patients by unit, number of beds available by unit, and emergency room triage marginal capacity as a percentage and head-count	Data Content-Data Usage	Edge	CSC-SEC-220	Bio	p07 s3, p10 s6		CSC-BIO-560	CSC-BIO-560 CDO May Send results (and requested meta data) to PH Agencie(s)						1.1		4.2
378	1	CSC-BIO-270	CDO	May	Provide Facility Utilization Data including admissions in last 24 hours at institution, discharges in last 24 hours at institution, deaths in last 24 hours at institution, date and time of report	Data Content-Data Usage	Edge	CSC-SEC-220	Bio	p07 s3, p10 s6		CSC-BIO-560	CSC-BIO-560 CDO May Send results (and requested meta data) to PH Agencie(s)						1.1		4.2
379	1	CSC-BIO-310	CDO	May	Provide information to support unique identification of data records (and avoid double counting)	Data Content-Data Usage	Edge	CSC-NFR-95	Bio	p09 s5		CSC-BIO-560	CSC-BIO-560 CDO May Send results (and requested meta data) to PH Agencie(s)						1.1		4.2
382	1	CSC-BIO-410	CDO	Should	Provide data management, including review of patient information to identify data elements necessary for BIOsurveillance, and automatic sharing with Public Health Agencies	Data Content-Data Usage	Edge	BIO-010, 400	Bio	p10 s6, s7									1.1		4.2

ID-ONC	#	ID	Entities	Entity – Property Relation	Property	Functional Categories	Entity Role (i.e., Core or Edge)	Link to other requirements	Principal Context	Context Reference	Comments / Rationale	Closely resembles...	Associated Reference 1	Associated Reference 2	Associated Reference 3	Associated Reference 4	Associated Reference 5	Initial Review Comments	Tentative Entity Breakout Session No.	Tentative Functional Category Breakout Session No.	Tentative Use Case Breakout Session No.
424	1	CSC-CE-810	CDO		May	Accept, acknowledge, validate format, and incorporate registration data, consumer-entered data, medication data, and/or consumer annotations.	Data Content-Data Usage	Edge	CSC-SEC-40	CE - Consumer	2.3.2.2, 2.3.2.3 , 2.3.2.4	These actions may also occur after a CDO queries another CDO for registration data, without the involvement of a PHR system.							Needs to be broken into separate components	1.1		4.3
447	1	CSC-EHR-480	CDO		Should	Receive query results, acknowledge them, validate their format, and report exceptions.	Data Content-Data Usage	Edge		EHR - Lab	3.2.1.6, 3.2.1.7a								Needs to be broken into separate components	1.1		4.1
448	1	CSC-EHR-490	CDO		May	Display, print and/or store query results on the local system, and possibly flag their availability. The display may include browsing and drill-down functions.	Data Content-Data Usage	Edge		EHR - Lab	3.2.1.4, 3.2.1.5, 3.2.4.3a,b, 3.5.2.3a								Needs to be broken into separate components	1.1		4.1
1038	1	NGIT-054	CDO		Shall	Electronically collect demographic and clinical data for public health reporting	Data Storage-Persistent Data Storage	Edge		Bio		Collect data as specified by PHA requirements (limited demographics, clinical, orders (labs/rads), results)	CSC-BIO-340 CSC-BIO-510	CSC-BIO-340 CDO Should Electronically collect, process, and transmit pertinent public health data in a secure fashion, using existing data exchange, ensure data is sent to appropriate PH agencies	CSC-BIO-510 CDO May Aggregate identified essential data					1.1		4.2
41	1	ACN-02.3.15	CDO		Shall	Accept update messages from other edge systems.	Data Transaction-(Pull)	Edge	N/A	Infrastructure	No Reference	The requesting system must be able to update its own system with information received via the NHIN.								1.1	3.2	4.4
422	1	CSC-CE-780	CDO		May	Transmit a query that are formatted according to HITSP standards and implementation guides, for consumer health data to a PHR system. The query will contain the PHR location and patient/consumer provided credentials.	Data Transaction-(Pull)	Edge	CSC-CE-870	CE - Consumer	CE-p.5.s3.A3, 2.3.1.1, 2.3.2.1	Queries to PHRs that are not fully-qualified SNO members do not occur over the NHIN.								1.1	3.2	4.3
423	1	CSC-CE-790	CDO		May	Receive the data results, that are formatted according to HITSP standards and implementation guides, from a query to a PHR system	Data Transaction-(Pull)	Edge	CSC-ALL-650	CE - Consumer	2.3.1.2									1.1	3.2	4.3
426	1	CSC-CE-870	CDO		May	Accept provider/operator-mediated authorized requests over the NHIN for data to be subsequently transferred to a patient's PHR. These requests must stipulate that the results will be viewed by the patient.	Data Transaction-(Pull)	Edge	CSC-ALL-650	CE - Consumer	2.3.3.1, 2.3.3.2	CDO must physically verify consumer identity before assembling data for the consumer or their PHR								1.1	3.2	4.3
427	1	CSC-CE-890	CDO		May	Under provider/operator control, transmit data that is formatted according to HITSP standards and implementation guides, accompanied by the patient's credentials, to a patient's PHR	Data Transaction-(Pull)	Edge	CSC-ALL-660	CE - Consumer	2.3.3.3									1.1	3.2	4.3
443	1	CSC-EHR-440	CDO		May	Query the NHIN Interface for historical lab results. Queries contain the identity and organization of the requester, and may contain a filtering specification, such as to return only results from a specified order number.	Data Transaction-(Pull)	Edge	CSC-ALL-40	EHR - Lab	3.2.1.1a,b, 3.2.3.3, 3.2.3.3a, 3.5.2.3									1.1	3.2	4.1
514	1	IBM-102-02	CDO		Shall	Receive notification from PH Agency of data to be sent	Data Transaction-(Pull)	Core	IBM-104-02	Bio	1.1.1.0	2.2 Individual CDOs - Receive PH and Configure Data Request For reference numbers 1.1.1 through 1.1.5, the recipients of requests for patient data from PH agencies are Individual Healthcare Delivery Organizations denote stand-alone hospitals and clinics that provide ambulatory and/or emergency departments care and/or in-house laboratories.								1.1	3.2	4.2
529	1	IBM-103-02	CDO		Shall	Receive notification from PH AGENCY of patient care data to be sent	Data Transaction-(Pull)	Core	IBM-104-02	Bio	1.2.1.0	3.2 Integrated CDOs - Receive and Configure PH Data Request								1.1	3.2	4.2
554	1	IBM-105-03	CDO		May	Be able to provide re-identified data for specific patients upon authorized request to Public Health agencies to support event detection	Data Transaction-(Pull)	Edge		Bio	1.z.1.3	5.1 PH Agency - Authorized Request to Re-identify Patient Data								1.1	3.2	4.2
673	1	IBM-209-08	CDO		Shall	Transmit request to view registration/medication history directly from PHR system	Data Transaction-(Pull)	Edge		CE - Consumer	2.3.1.2	6.1 Provider access to PHR data			CSC-CE-780 CDO May Transmit a query that are formatted according to HITSP standards and implementation guides, for consumer health data to a PHR system. The query will contain the PHR location and patient/consumer provided credentials.					1.1	3.2	4.3
677	1	IBM-209-12	CDO		Shall	Transmit request to receive registration/medication history from PHR through NHIN	Data Transaction-(Pull)	Core		Infrastructure	2.3.1.2	6.1 Provider access to PHR data								1.1	3.2	4.4
434	1	CSC-EHR-370	CDO		Should	Receive Lab Results pushed to them, acknowledge receipt, and validate their format.	Data Transaction-(Push)	Edge		EHR - Lab	3.2.1.1, 3.2.1.2, 3.2.1.3									1.1	3.2	4.1
438	1	CSC-EHR-400	CDO		Should	Push patient demographic identifying information and updates and record locations to the Record Locator Service, if they are not already in the same system.	Data Transaction-(Push)	Edge	CSC-ALL-190	EHR - Lab	3.4.2.0, 3.4.2.1, 3.4.2.2									1.1	3.2	4.1
440	1	CSC-EHR-420	CDO		May	Send Notification messages and/or Lab results to specified organizations	Data Transaction-(Push)	Edge	CSC-ALL-380	EHR - Lab	3.2.2.0, 3.4.1.5, 3.5.1.0, 3.5.2.4, 3.5.2.5, 3.5.3.0, 3.5.3.1	EMRs may distribute lab results or notifications in some SNOs, and LIS may do so in others								1.1	3.2	4.1
580	1	IBM-107-14	CDO		May	Receive patient specific biosurveillance event response information message from Public Health to support event response	Data Transaction-(Push)	Edge	IBM-107-13	Bio	1.z.4.2	7.3 PH Community - Event Response - Patient Centric								1.1	3.2	4.2
675	1	IBM-209-10	CDO		Shall	Receive registration/medication history to view via web portal	Data Transaction-(Push)	Edge	IBM-209-08	CE - Consumer	2.3.1.2	6.1 Provider access to PHR data								1.1	3.2	4.3
214	1	ACN-07.17	CDO		Shall	Log system and user interactions.	Data Transaction-Audit & Logging	Edge	N/A	Infrastructure	No Reference	N/A								1.1	3.2	4.4
273	1	ACN-07.25	CDO		Shall	Conduct regular risk assessments.	Data Transaction-Audit & Logging	Edge	N/A	Infrastructure	No Reference	Conduct regular risk assessments including but not limited to vulnerability scans, penetration testing, application testing, social engineering and policy compliance.								1.1	3.2	4.4
390	1	CSC-BIO-570	CDO		Should	Log interaction between CDO systems and PH Agencie(s)	Data Transaction-Audit & Logging	Edge	CSC-SEC-90	Bio	1.1.5.2, 1.2.5.2, p11 s7									1.1	3.2	4.2
974	1	IBM-319-01	CDO		Shall	Create audit entry for each transaction	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.2.x.1	3.7 Maintain and Access Audit Log								1.1	3.2	4.1
975	1	IBM-319-02	CDO		Shall	Include audit content as recommended by HITSP standards or as determined by the marketplace if no standards are available	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.2.x.2	3.7 Maintain and Access Audit Log								1.1	3.2	4.1
976	1	IBM-319-03	CDO		Shall	Format audit content as recommended by HITSP standards or as determined by the marketplace if no standards are available	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.2.x.3	3.7 Maintain and Access Audit Log								1.1	3.2	4.1
977	1	IBM-319-04	CDO		Shall	Not allow edits to audit entries	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.2.x.4	3.7 Maintain and Access Audit Log								1.1	3.2	4.1
978	1	IBM-319-05	CDO		Shall	Store audit entry for amount of time determined by law, accrediting agencies, marketplace and entity	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.2.x.5	3.7 Maintain and Access Audit Log								1.1	3.2	4.1
979	1	IBM-319-06	CDO		Shall	Provide capability to print audit trail	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.2.x.6	3.7 Maintain and Access Audit Log							Feature of edge system	1.1	3.2	4.1
980	1	IBM-319-07	CDO		Shall	Display audit trail only to those authorized to view the audit trail	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.2.x.7	3.7 Maintain and Access Audit Log								1.1	3.2	4.1
430	1	CSC-EHR-310	CDO		May	Collect and persist information, provided by the patient, regarding providers to be notified, or excluded from notification, of availability of Lab results	Data Transaction-Data Routing	Edge	CSC-ALL-180	EHR - Lab	3.1.2.0, 3.1.2.1, 3.1.2.1a									1.1	3.2	4.1
431	1	CSC-EHR-330	CDO		May	Collect and persist information, provided by the patient, regarding providers to be allowed, or excluded from, access to Lab results	Data Transaction-Data Routing	Edge	CSC-ALL-180	EHR - Lab	3.1.2.0, 3.1.2.1, 3.1.2.1a									1.1	3.2	4.1
664	1	IBM-208-04	CDO		Shall	Send HL7 feeds to NHIN Interface	Data Transaction-Data Routing	Core		Infrastructure	2.z.5.1	5.1 PHR on the NHIN							Refers to a specific standard- the statement should be changed to reference HITSP	1.1	3.2	4.4
704	1	IBM-209-40	CDO		Shall	Send confirmation acknowledging receipt of registration/medication history data	Data Transaction-Data Routing	Edge		CE - Consumer	2.3.2.5	6.1 Provider access to PHR data								1.1	3.2	4.3
701	1	IBM-209-37	CDO		Shall	Confirm integrity of imported data	Data Transaction-Data Transaction Verification	Edge		CE - Consumer	2.3.2.3	6.1 Provider access to PHR data								1.1	3.2	4.3
1039	1	NGIT-055	CDO		May	Filter collected data records to identify biosurveillance data	Data Transformation-Data Filtering	Edge		Bio	1.1.1.1, 1.2.1.1		CSC-BIO-340 CSC-BIO-500 NGIT-056	CSC-BIO-340 CDO Should Electronically collect, process, and transmit pertinent public health data in a secure fashion, using existing data exchange, ensure data is sent to appropriate PH agencies	CSC-BIO-500 CDO Should Filter collected data records to identify BIOsurveillance data and mark relevant data whether directly or through an intermediary as required by PHA or local policy	NGIT-056 CDO May Support filtering rules defined by public health agencies				1.1	3.3	4.2
1041	1	NGIT-057	CDO		May	Accept a filter rule defined by public health agencies	Data Transformation-Data Filtering	Edge		Bio									Too Granular	1.1	3.3	4.2
1042	1	NGIT-058	CDO		May	Apply filter rule changes	Data Transformation-Data Filtering	Edge		Bio									Too Granular	1.1	3.3	4.2
1043	1	NGIT-059	CDO		May	Aggregate data for transmission as determined by HITSP implementation guide	Data Transformation-Data Filtering	Edge		Bio	1.1.1.2, 1.2.1.2	Implement logic to minimize "double counting" (bio precondition 4). HITSP implementation guide will need to specify aggregation rules.								1.1	3.3	4.2
387	1	CSC-BIO-540	CDO		Should	Transform data into approved HITSP standards using their implementation guidelines	Data Transformation-Data Mapping/Translation	Edge		Bio	1.1.3.1, 1.2.3.1, p11 s7									1.1	3.3	4.2

ID-ONC	#	ID	Entities	Entity – Property Relation	Property	Functional Categories	Entity Role (i.e., Core or Edge)	Link to other requirements	Principal Context	Context Reference	Comments / Rationale	Closely resembles...	Associated Reference 1	Associated Reference 2	Associated Reference 3	Associated Reference 4	Associated Reference 5	Initial Review Comments	Tentative Entity Breakout Session No.	Tentative Functional Category Breakout Session No.	Tentative Use Case Breakout Session No.
698	1	IBM-209-34	CDO	Shall	Receive registration/medication history to parse into EHR system via NHIN	Data Transformation-Data Mapping/Translation	Edge		CE - Consumer	2.3.2.2	6.1 Provider access to PHR data								1.1	3.3	4.3
703	1	IBM-209-39	CDO	Shall	Parse and validate results content	Data Transformation-Data Mapping/Translation	Edge		CE - Consumer	2.3.2.4	6.1 Provider access to PHR data								1.1	3.3	4.3
962	1	IBM-317-01	CDO	Shall	Support multiple languages	Data Transformation-Data Rendering	Edge		EHR - Lab	3.z.1.1	3.5. UI Accommodates Multiple Languages and Handicapped							Feature of edge system	1.1	3.3	4.1
963	1	IBM-317-02	CDO	Shall	Display content in language designated by user	Data Transformation-Data Rendering	Edge		EHR - Lab	3.z.1.2	3.5. UI Accommodates Multiple Languages and Handicapped							Feature of edge system	1.1	3.3	4.1
964	1	IBM-317-03	CDO	Shall	Support data entry in language designated by user	Data Transformation-Data Rendering	Edge		EHR - Lab	3.z.1.3	3.5. UI Accommodates Multiple Languages and Handicapped							Feature of edge system	1.1	3.3	4.1
965	1	IBM-317-04	CDO	Shall	Display retrieved data in language specified by user	Data Transformation-Data Rendering	Edge		EHR - Lab	3.z.1.4	3.5. UI Accommodates Multiple Languages and Handicapped							Feature of edge system	1.1	3.3	4.1
966	1	IBM-317-05	CDO	Shall	Provide accessibility for handicapped	Data Transformation-Data Rendering	Edge		EHR - Lab	3.z.1.5	3.5. UI Accommodates Multiple Languages and Handicapped							Feature of edge system	1.1	3.3	4.1
370	1	CSC-BIO-100	CDO	May	Relink anonymized data to patients when requested by authorized public health officials for investigations, or use intermediaries to do so	Information Location-Identity/Information Correlation	Edge	CSC-SEC-250	Bio	p04 s2, p09 s5, p10 s6									1.1	3.4	4.2
373	1	CSC-BIO-210	CDO	May	Provide patient demographic data including encounter date, patient information, date/time of last record update	Information Location-Identity/Information Correlation	Edge	BIO-400, 540	Bio	p07 s3		IBM-101-01 IBM-101-03 IBM-101-05	IBM-101-01 CDO-EMR--Ambulatory Shall "Provide limited patient demographic data as specified in Biosurveillance use case in HL7 format for filtering by the CDO NHIN Interface System. Demographic data include: encounter date, patient information (date of birth, age, gender, resident zip code, state of residence), and date/time of last record update. Note: Strongly recommend including ""patient county of residence"", if available, as this would aid in associating the data with appropriate county-level public health departments."	IBM-101-03 CDO-EMR--Acute Shall "Provide limited patient demographic data as specified in Biosurveillance use case in HL7 format for filtering by the CDO NHIN Interface System. Demographic data include: encounter date, patient information (date of birth, age, gender, resident zip code, state of residence), and date/time of last record update. Note: Strongly recommend including ""patient county of residence"", if available, as this would aid in associating the data with appropriate county-level public health departments."	IBM-101-05 CDO-EMR--ED Shall "Provide limited patient demographic data as specified in Biosurveillance use case in HL7 format for filtering by the CDO NHIN Interface System. Demographic data include: encounter date, patient information (date of birth, age, gender, resident zip code, state of residence), and date/time of last record update. Note: Strongly recommend including ""patient county of residence"", if available, as this would aid in associating the data with appropriate county-level public health departments."				1.1	3.4	4.2
374	1	CSC-BIO-220	CDO	May	Provide clinical data including patient class, diagnosis/injury code, diagnostic type, diagnostic date and time, discharge disposition, chief complaint, date and time of first signs of illness	Information Location-Identity/Information Correlation	Edge	CSC-NFR-10, 20, 220	Bio	p07 s3		IBM-101-02 IBM-101-04 IBM-101-06	IBM-101-02 CDO-EMR--Ambulatory Shall "Provide clinical data as specified in Biosurveillance use case in HL7 format for filtering by the CDO NHIN Interface System. Clinical data include: patient class (outpatient, inpatient, ER) diagnosis/injury code, diagnosis type, diagnosis date and time, discharge disposition) chief complaint, and date and time of first symptoms of illness. Note: Strongly recommend also including ""History of Present Illness"" (also known as ""Extended Chief Complaint"") if available."	IBM-101-04 CDO-EMR--Acute Shall "Provide clinical data as specified in Biosurveillance use case in HL7 format for filtering by the CDO NHIN Interface System. Clinical data include: patient class (outpatient, inpatient, ER) diagnosis/injury code, diagnosis type, diagnosis date and time, discharge disposition) chief complaint, and date and time of first symptoms of illness. Note: Strongly recommend also including ""History of Present Illness"" (also known as ""Extended Chief Complaint"") if available."	IBM-101-06 CDO-EMR--ED Shall "Provide clinical data as specified in Biosurveillance use case in HL7 format for filtering by the CDO NHIN Interface System. Clinical data include: patient class (outpatient, inpatient, ER) diagnosis/injury code, diagnosis type, diagnosis date and time, discharge disposition) chief complaint, and date and time of first symptoms of illness. Note: Strongly recommend also including ""History of Present Illness"" (also known as ""Extended Chief Complaint""), if available, as well as lab orders/results associated with the ED visit."				1.1	3.4	4.2
375	1	CSC-BIO-240	CDO	May	Provide Laboratory and Radiology Test Results including reporting lab ID, performing lab ID, report date/time, report status, collection date, collection method, specimen site, test ordered, test results, organism identified/result other than organism, method type, result unit, test interpretation, susceptibility test interpretation, test status	Information Location-Identity/Information Correlation	Edge	BIO-400, 540	Bio	p07 s3									1.1	3.4	4.2
386	1	CSC-BIO-530	CDO	Should	Embed randomized data linker to allow authorized re-identification	Information Location-Identity/Information Correlation	Edge	CSC-SEC-250	Bio	1.1.2.2, 1.2.2.2, p07 s3, p09 s5, p11 s7									1.1	3.4	4.2
429	1	CSC-EHR-305	CDO	Should	Collect and update patient demographic identity information.	Information Location-Identity/Information Correlation	EHR - Lab	CSC-ALL-180	EHR - Lab	3.1.1.0, 3.1.1.1									1.1	3.4	4.1
523	1	IBM-102-11	CDO	Shall	Send biosurveillance data within 24 hours of the event	Non-Functional-Performance			Bio	1.1.5.1X	2.4 Individual CDOs - Route, Transmit, Audit Log Requested Data	IBM-103-11 CSC-BIO-010 NGIT-159 CSC-BIO-110	IBM-103-11 CDO Shall Send biosurveillance data within 24 hours of the event	CSC-BIO-010 CDO May Share data with appropriate government authorities. CDOs may share directly or use a third-party intermediary.	NGIT-159 CDO Shall Transmit data to support public health biosurveillance	CSC-BIO-110 CDO Should Ensure timely data delivery (within twenty-four hours of clinical event)			1.1	3.5	4.2
676	1	IBM-209-11	CDO	Shall	Present data within via web portal in 5 seconds	Non-Functional-Performance	Edge		CE - Consumer	2.3.1.2x	6.1 Provider access to PHR data							Feature - Performance	1.1	3.5	4.3
255	1	ACN-07.21	CDO	Shall	Implement security best practices at all levels in the Edge Systems environment.	Non-Functional-Robustness	Edge	N/A	Infrastructure	No Reference	Implement security best practices for configuration across infrastructure, operating systems and applications.								1.1	3.5	4.4
256	1	ACN-07.21.1	CDO	Shall	Ensure that only required components are enabled/activated for Edge System infrastructure .	Non-Functional-Robustness	Edge	N/A	Infrastructure	No Reference	Only required access control lists, accounts and services are enabled; all others are disabled or deactivated.								1.1	3.5	4.4
257	1	ACN-07.21.2	CDO	Shall	Ensure that only required components are enabled/activated for Edge System operating systems.	Non-Functional-Robustness	Edge	N/A	Infrastructure	No Reference	Only required access control lists, accounts and services are enabled; all others are disabled or deactivated.								1.1	3.5	4.4
258	1	ACN-07.21.3	CDO	Shall	Ensure that only required components are enabled/activated for Edge System applications.	Non-Functional-Robustness	Edge	N/A	Infrastructure	No Reference	Only required access control lists, accounts and services are enabled; all others are disabled or deactivated.								1.1	3.5	4.4
260	1	ACN-07.21.5	CDO	Shall	Ensure that the system is protected against the introduction of malware into the environment.	Non-Functional-Robustness	Edge	N/A	Infrastructure	No Reference	Malware detection, prevention and remediation capabilities must exist across the NHIN environment, including but not limited to the infrastructure, system and application layers.								1.1	3.5	4.4
261	1	ACN-07.21.6	CDO	Shall	Ensure that only required application functionalities are enabled/activated.	Non-Functional-Robustness	Edge	N/A	Infrastructure	No Reference	Only application functionalities required to support access to NHIN services should be enabled; all others should be disabled or deactivated.								1.1	3.5	4.4
262	1	ACN-07.21.7	CDO	Shall	Limit functionality that can be accessed remotely.	Non-Functional-Robustness	Edge	N/A	Infrastructure	No Reference	Certain privileged functions can not be executed from a remote session.								1.1	3.5	4.4
263	1	ACN-07.21.8	CDO	Shall	Ensure that data is transmitted securely between system endpoints.	Non-Functional-Robustness	Edge	N/A	Infrastructure	No Reference	Communications between systems must be protected against interception or modification with controls, including but not limited to encryption, data integrity checking and acknowledgement.								1.1	3.5	4.4
267	1	ACN-07.22.2	CDO	Shall	Segregate the network by environments, including but not limited to development, testing and production.	Non-Functional-Robustness	Edge	N/A	Infrastructure	No Reference	N/A								1.1	3.5	4.4
286	1	ACN-07.32	CDO	Shall	Ensure that the system is protected against the introduction of malware into the environment.	Non-Functional-Robustness	Edge	N/A	Infrastructure	No Reference	Malware detection, prevention and remediation capabilities must exist across the NHIN environment, including but not limited to the infrastructure, system and application layers.								1.1	3.5	4.4
289	1	ACN-07.33.2	CDO	Shall	Segregate the network by environments, including but not limited to development, testing and production.	Non-Functional-Robustness	Edge	N/A	Infrastructure	No Reference	N/A								1.1	3.5	4.4
290	1	ACN-07.34	CDO	Shall	Ensure that data is transmitted securely between system endpoints.	Non-Functional-Robustness	Edge	N/A	Infrastructure	No Reference	Communications between systems must be protected against interception or modification with controls, including but not limited to encryption, data integrity checking and acknowledgement.								1.1	3.5	4.4
307	1	ACN-07.9	CDO	Shall	Provide a mechanism for ensuring non-repudiation.	Security-Authentication	Edge	N/A	Infrastructure	No Reference	Edge Systems must provide non-repudiation for output that requires verification, including but not limited to prescription issuance (signatures), birth/death certificates.								1.1	3.6	4.4
442	1	CSC-EHR-430	CDO	Shall	Authorize and authenticate users making use of CDO Systems and the NHIN Interface.	Security-Authentication	EHR - Lab	CSC-SEC-50, 60	EHR - Lab	3.2.1.1b, 3.2.3.1, 3.2.4.2, 3.4.2.1, 3.4.3.2, 3.5.2.1									1.1	3.6	4.1

ID-ONC	#	ID	Entities	Entity – Property Relation	Property	Functional Categories	Entity Role (i.e., Core or Edge)	Link to other requirements	Principal Context	Context Reference	Comments / Rationale	Closely resembles…	Associated Reference 1	Associated Reference 2	Associated Reference 3	Associated Reference 4	Associated Reference 5	Initial Review Comments	Tentative Entity Breakout Session No.	Tentative Functional Category Breakout Session No.	Tentative Use Case Breakout Session No.
666	1	IBM-209-01	CDO	Shall	Submit authentication information to the PHR provider [to view/access registration/medication history]	Security-Authentication	Edge	IBM-203-04	CE - Consumer	2.3.1.1	6.1 Provider access to PHR data ONC Guidance: The Harmonized Consumer Empowerment Use Case did not intend to imply a common provider ID across the network, but does expresses the need for authentication of providers. Several use case needs suggest that an NHIN architecture may need to prototype and support some federated identity functions. NOTE: Whether the PHR is viewed directly through a web-portal or via the NHIN will be dictated by consumer preference and marketplace circumstances.								1.1	3.6	4.3
667	1	IBM-209-02	CDO	Shall	Submit authentication information to the NHIN Interface [to view/access registration/medication history]	Security-Authentication	Core	IBM-208-02	Infrastructure	2.3.1.1x	6.1 Provider access to PHR data ONC Guidance: The Harmonized Consumer Empowerment Use Case did not intend to imply a common provider ID across the network, but does expresses the need for authentication of providers. Several use case needs suggest that an NHIN architecture may need to prototype and support some federated identity functions. NOTE: Whether the PHR is viewed directly through a web-portal or via the NHIN will be dictated by consumer preference and marketplace circumstances.								1.1	3.6	4.4
177	1	ACN-07.12	CDO	Shall	Control Edge System access through structured Role Based Access Control (RBAC).	Security-Authorization	Core	N/A	Infrastructure	No Reference	RBAC is necessary to assign and manage access privileges for all NHIN users and interfacing Edge Systems.								1.1	3.6	4.4
178	1	ACN-07.12.1	CDO	Shall	Implement a RBAC model which is scalable and flexible.	Security-Authorization	Core	N/A	Infrastructure	No Reference	RBAC model must be able to support large scale user expansion and varying types of access privileges.								1.1	3.6	4.4
185	1	ACN-07.13	CDO	Shall	Control Edge System user access through structured Role Based Access Control (RBAC).	Security-Authorization	Edge	N/A	Infrastructure	No Reference	RBAC must be used to assign and manage access privileges for all Edge System users.								1.1	3.6	4.4
186	1	ACN-07.13.1	CDO	Shall	Implement a RBAC model which is scalable and flexible.	Security-Authorization	Edge	N/A	Infrastructure	No Reference	RBAC model must be able to support large scale user expansion and varying types of access privileges.								1.1	3.6	4.4
187	1	ACN-07.13.2	CDO	Shall	Strictly manage all internal user access requests through structured Role Based Access Control (RBAC).	Security-Authorization	Edge	N/A	Infrastructure	No Reference	Edge Systems must implement access controls based on user role definitions.								1.1	3.6	4.4
190	1	ACN-07.13.5	CDO	Shall	Designate an administrator role covering administration of internal resources.	Security-Authorization	Edge	N/A	Infrastructure	No Reference	Administration of internal resources must be restricted to designated administrators for accountability and incident response integrity.								1.1	3.6	4.4
191	1	ACN-07.13.6	CDO	Shall	Create new internal roles where there is a business requirement for the new role.	Security-Authorization	Edge	N/A	Infrastructure	No Reference	N/A								1.1	3.6	4.4
192	1	ACN-07.14	CDO	Shall	Permit access to an individual's data to Edge System users where there is a legitimate need.	Security-Authorization	Edge	N/A	CE, EHR	3.4.1.4. Patient-Provider Relationship	Access to an individual's data is conditional based on the user having an established care relationship with the individual. An established care relationship could include, but not limited to, being involved in medical care/diagnosis/treatment for the patient.								1.1	3.6	4.4
193	1	ACN-07.15	CDO	Shall	Permit override of access restrictions to an individual's data by Edge System users.	Security-Authorization	Edge	N/A	CE, EHR	No Reference	There may be exception events that require access to an individual's data, where the user does not have an established care relationship, e.g. emergency treatment. Legitimate overrides in such instances must be allowed.								1.1	3.6	4.4
274	1	ACN-07.26	CDO	Shall	Ensure appropriate security controls exist to protect against unauthorized access to NHIN data or unauthorized access to systems with access to NHIN data.	Security-Authorization	Edge	N/A	Infrastructure	No Reference	In the event that all Edge requirements above have not been implemented, the controls stated in this section must be in place. All Edge entities wishing to connect to the NHIN must satisfy a number of basic security requirements before connection is authorized. This is to ensure that all data sharing via the NHIN is conducted in a secure manner, as all entities would have confirmed to maintain a pre-agreed security baseline.								1.1	3.6	4.4
1091	1	NGIT-109	CDO	shall	Authorize request for data	Security-Authorization	Edge		CE - Consumer	2.3.3.2									1.1	3.6	4.3
268	1	ACN-07.23	CDO	Shall	Comply with accepted security policy, privacy and management standards.	Security-Confidentiality	Edge	N/A	Infrastructure	No Reference	Security management standards and best practices issued by recognized security standards organizations should be implemented.								1.1	3.6	4.4
271	1	ACN-07.23.3	CDO	Shall	Ensure that system complies with applicable federal, state and local legislation.	Security-Confidentiality	Edge	N/A	Infrastructure	No Reference	Federal, state and local privacy, security, retention, disclosure and any other relevant requirements outlined in applicable legislation must be implemented.								1.1	3.6	4.4
276	1	ACN-07.27.1	CDO	Shall	Ensure appropriate technical and procedural controls have been implemented to support the Information Security Policy.	Security-Confidentiality	Edge	N/A	Infrastructure	No Reference	Security controls must be operationalized in a manner that aligns with how the controls have been defined in the Edge organization's Security Policy.								1.1	3.6	4.4
277	1	ACN-07.27.2	CDO	Shall	Ensure that a robust monitoring capability exists to assure adherence and compliance to the Information Security Policy.	Security-Confidentiality	Edge	N/A	Infrastructure	No Reference	A robust monitoring capability is required to ensure that security controls are operational, are effective, and are observed by all staff and third parties (where appropriate).								1.1	3.6	4.4
432	1	CSC-EHR-350	CDO	Shall	Provide patients with a method to indicate that a particular visit is confidential, and hence only the ordering clinician is to be notified.	Security-Confidentiality	Edge	CSC-SEC-212	EHR - Lab	3.1.2.1a									1.1	3.6	4.1
485	1	CSC-SEC-180	CDO	Should	Enforce CDO-to-CDO and CDO-to-NHIN security and privacy policies.	Security-Confidentiality	Edge		Infrastructure										1.1	3.6	4.4
1044	1	NGIT-060	CDO	May	Anonymize data for transmission to public health agencies	Security-Confidentiality	Edge	NGIT-069	Bio	1.1.2.0, 1.2.2.0	Data anomyization will be performed in a consistent manner.	IBM-102-06 IBM-103-06	IBM-102-06 CDO-CDO NHIN Interface Shall Anonymize patient specific data before transmission to meet all applicable privacy and security considerations	IBM-103-06 CDO-CDO NHIN Interface Shall Anonymize patient specific data before transmission to meet all applicable privacy and security considerations					1.1	3.6	4.2
1054	1	NGIT-069a	CDO	May	Implement a randomized data linker (RDL) for biosurveillance data transmitted to public health agencies	Security-Confidentiality	Edge		Bio										1.1	3.6	4.2
1096	1	NGIT-117	CDO	May	Support re-linking identity information to anonymized data per RDL	Security-Confidentiality			Bio										1.1	3.6	4.2
334	1	CSC-ALL-50	CDO-CDO NHIN Interface	Shall	Transmit well formed messages according to a HITSP specified implementation instruction.	Data Content	Core		Infrastructure										2.5	3.1	4.4
351	1	CSC-ALL-800	CDO-CDO NHIN Interface	Shall	Require HITSP standard message formats and implementation guidelines for queries and responses.	Data Content	Core		Infrastructure										2.5	3.1	4.4
527	1	IBM-102-15	CDO-CDO NHIN Interface	Shall	Process acknowledgment of accurate receipt from PH Agency and retransmit if necessary	Data Content-Data Quality/Data Integrity	Core	IBM-104-6	Bio	1.1.5.2	2.4 Individual CDOs - Route, Transmit, Audit Log Requested Data								2.5		4.2
542	1	IBM-103-15	CDO-CDO NHIN Interface	Shall	Process acknowledgment of accurate receipt from PH Agency and retransmit if necessary	Data Content-Data Quality/Data Integrity	Core	IBM-104-6	Bio	1.2.5.2	3.4 Integrated CDOs - Route, Transmit, Audit Log Requested Data								2.5		4.2
353	1	CSC-ALL-820	CDO-CDO NHIN Interface	May	Accept and respond asynchronously to requests for data	Data Content-Data Source	Core		Infrastructure										2.5		4.4
559	1	IBM-106-04	CDO-CDO NHIN Interface	Shall	Provide for real-time, bi-directional secure messaging between PH Agencies and CDOs to monitor a previously detected event	Data Content-Data Usage	Core		Bio	1.2.2.4	6.2 PH Community - Monitor Detected Event - Secure Messaging								2.5		4.2
517	1	IBM-102-05	CDO-CDO NHIN Interface	Shall	Aggregate all identified data associated with complete lab encounter	Data Storage-Transient Data	Core		Bio	1.1.1.2	2.3 Individual CDOs - Filter, Transform, Anonymize, Link Requested Data								2.5	3.3	4.2
532	1	IBM-103-05	CDO-CDO NHIN Interface	Shall	Aggregate all identified data associated with complete lab encounter	Data Storage-Transient Data	Core		Bio	1.2.1.2	3.3 Integrated CDOs - Filter, Transform, Anonymize, Link Requested Data								2.5	3.3	4.2
328	1	CSC-ALL-40	CDO-CDO NHIN Interface	Shall	Include initiating user and institution information with each query and pushed message.	Data Transaction-(Pull)	Core		Infrastructure										2.5	3.2	4.4
345	1	CSC-ALL-750	CDO-CDO NHIN Interface	Shall	Accept and respond to authenticated and authorized queries for Lab results and/or other data for a patient.	Data Transaction-(Pull)	Core		Infrastructure										2.5	3.2	4.4
348	1	CSC-ALL-780	CDO-CDO NHIN Interface	Shall	Accept lists of other SNOs to contact as part of queries, and shall query the these other SNOs in addition to querying repositories within its SNO.	Data Transaction-(Pull)	Core		Infrastructure										2.5	3.2	4.4
349	1	CSC-ALL-790	CDO-CDO NHIN Interface	Shall	Only query indicated repositories within the SNO, unless an ambiguous query is made, requesting resolution of patient identity and repository locations.	Data Transaction-(Pull)	Core		Infrastructure										2.5	3.2	4.4
352	1	CSC-ALL-810	CDO-CDO NHIN Interface	May	Communicate asynchronously with remote clinical data sources to handle varying response time characteristics of the data sources	Data Transaction-(Pull)	Core		Infrastructure		Messaging between SNOs is expected to be asynchronous given the higher security and routing overheads of inter-SNO communication								2.5	3.2	4.4
354	1	CSC-ALL-840	CDO-CDO NHIN Interface	Shall	Aggregate query responses from multiple data sources and return a single aggregated response to the querying entity.	Data Transaction-(Pull)	Core		Infrastructure										2.5	3.2	4.4

ID-ONC	#	ID	Entities	Entity – Property Relation	Property	Functional Categories	Entity Role (i.e., Core or Edge)	Link to other requirements	Principal Context	Context Reference	Comments / Rationale	Closely resembles...	Associated Reference 1	Associated Reference 2	Associated Reference 3	Associated Reference 4	Associated Reference 5	Initial Review Comments	Tentative Entity Breakout Session No.	Tentative Functional Category Breakout Session No.	Tentative Use Case Breakout Session No.
697	1	IBM-209-33	CDO-CDO NHIN Interface	Shall	Aggregate appropriate records	Data Transaction-(Pull)	Edge	Also see: EHR - Clinician Requests Historical Results Location - IBM-307-13	CE - Consumer	2.3.1.2x	6.1 Provider access to PHR data. Aggregation may occur via any number of means. For the prototype, all appropriate records will be displayed in reverse chronological order. In a production system, we would expect multiple variations controlled by unique preferences to make the system more user friendly (i.e. pre-aggregation of certain records, sub-queries within the retrieved record cache, etc.)								2.5	3.2	4.3
134	1	ACN-06.1.1	CDO-CDO NHIN Interface	Shall	Receive health data from participating edge systems.	Data Transaction-(Push)	Edge	N/A	Bio	Pre-condition	Health data should be received from participating edge systems in a standard format.								2.5	3.2	4.2
332	1	CSC-ALL-430	CDO-CDO NHIN Interface	Shall	Deliver messages to destination organizations, or notify the sender that they are "Undeliverable".	Data Transaction-(Push)	Core		Infrastructure										2.5	3.2	4.4
522	1	IBM-102-10	CDO-CDO NHIN Interface	Shall	Transmit the matching and normalized data along with any appropriate metadata (e.g., limited patient demographics) to appropriate public health agencies	Data Transaction-(Push)	Core		Bio	1.1.5.1	2.4 Individual CDOs - Route, Transmit, Audit Log Requested Data								2.5	3.2	4.2
537	1	IBM-103-10	CDO-CDO NHIN Interface	Shall	Transmit the matching and normalized data along with any appropriate metadata (e.g., limited patient demographics) to appropriate public health agencies	Data Transaction-(Push)	Core		Bio	1.2.5.1	3.4 Integrated CDOs - Route, Transmit, Audit Log Requested Data								2.5	3.2	4.2
350	1	CSC-ALL-80	CDO-CDO NHIN Interface	Shall	Log all interactions.	Data Transaction-Audit & Logging	Core	CSC-SEC-85	Infrastructure										2.5	3.2	4.4
479	1	CSC-SEC-120	CDO-CDO NHIN Interface	Shall	Protect audit data from unauthorized access/modification	Data Transaction-Audit & Logging	Core		Infrastructure										2.5	3.2	4.4
526	1	IBM-102-14	CDO-CDO NHIN Interface	Shall	Log Interaction between organization and PH AGENCY	Data Transaction-Audit & Logging	Core		Bio	1.1.5.2	2.4 Individual CDOs - Route, Transmit, Audit Log Requested Data								2.5	3.2	4.2
541	1	IBM-103-14	CDO-CDO NHIN Interface		Log Interaction between organization and PH AGENCY	Data Transaction-Audit & Logging	Core		Bio	1.2.5.2	3.4 Integrated CDOs - Route, Transmit, Audit Log Requested Data								2.5	3.2	4.2
1037	1	NGIT-011	CDO-CDO NHIN Interface	Shall	Maintain history of network transactions	Data Transaction-Audit & Logging	Core		Infrastructure										2.5	3.2	4.4
515	1	IBM-102-03	CDO-CDO NHIN Interface	Shall	Configure environment to monitor, process and send matching patient care and any HL7 available resource utilization data	Data Transaction-Data Access and Update	Core	IBM-101-1 through IBM-101-13	Bio	1.1.1.0	2.2 Individual CDOs - Receive and Configure PH Data Request								2.5	3.2	4.2
530	1	IBM-103-03	CDO-CDO NHIN Interface	Shall	Configure environment to monitor, process and send matching patient care and any HL7 available resource utilization data	Data Transaction-Data Access and Update	Core	IBM-101-1 through IBM-101-13	Bio	1.2.1.0	3.2 Integrated CDOs - Receive and Configure PH Data Request								2.5	3.2	4.2
662	1	IBM-208-02	CDO-CDO NHIN Interface	Shall	Publish the appropriate data via the NHIN if the consumer opts in to the NHIN	Data Transaction-Data Access and Update	Core	IBM-205-15, IBM-205-21, IBM-207-26, IBM-207-27	Infrastructure	2.z.2.2	5.1 PHR on the NHIN								2.5	3.2	4.4
311	1	CSC-ALL-20	CDO-CDO NHIN Interface	Shall	Maintain a local list of URLs for other SNOs and entities that it is authorized to query and to send messages.	Data Transaction-Data Routing	Core		Infrastructure										2.5	3.2	4.4
330	1	CSC-ALL-410	CDO-CDO NHIN Interface	Shall	Accept and route all authorized messages to designated edge systems.	Data Transaction-Data Routing	Core		Infrastructure										2.5	3.2	4.4
521	1	IBM-102-09	CDO-CDO NHIN Interface	Shall	Apply business rules to determine which of all of the registered (local, state and federal) public agencies need to be notified for each data request	Data Transaction-Data Routing	Core		Bio	1.1.4.1	2.4 Individual CDOs - Route, Transmit, Audit Log Requested Data								2.5	3.2	4.2
536	1	IBM-103-09	CDO-CDO NHIN Interface	Shall	Apply business rules to determine which of all of the registered (local, state and federal) public agencies need to be notified for each data request	Data Transaction-Data Routing	Core		Bio	1.2.4.1	3.4 Integrated CDOs - Route, Transmit, Audit Log Requested Data. Customized local, state, federal business rules governing the protocol for routing results need to be activated in each CDO NHIN Interface System; the business rules for multi-state integrated CDOs that aggregate results centrally need to be able to route data based on source designation (i.e., customized routing rules by region or state).								2.5	3.2	4.2
1056	1	NGIT-071	CDO-CDO NHIN Interface	Shall	Support business rules for routing biosurveillance data to specific public health agencies	Data Transaction-Data Routing	Core		Bio	1.1.4.1, 1.2.4.1									2.5	3.2	4.2
1046	1	NGIT-062	CDO-CDO NHIN Interface	Shall	Accept a filter rule defined by public health agencies	Data Transformation-Data Filtering	Core		Bio										2.5	3.3	4.2
1047	1	NGIT-063	CDO-CDO NHIN Interface	Shall	Apply filter rule changes	Data Transformation-Data Filtering	Core		Bio										2.5	3.3	4.2
1048	1	NGIT-064	CDO-CDO NHIN Interface	Shall	Filter collected data records to identify biosurveillance data	Data Transformation-Data Filtering	Core		Bio	1.1.1.1, 1.2.1.1		IBM-103-04 IBM-102-04 NGIT-061	NGIT-061 CDO-CDO NHIN Interface Shall Support filtering rules defined by public health agencies (on a per entity basis)	IBM-102-04 CDO-CDO NHIN Interface Shall Filter data source HL7 streams to identify biosurveillance data meeting all specified (trigger) conditions for requirements requested by authorized Public Health agencies	IBM-103-04 CDO-CDO NHIN Interface Shall Filter data source HL7 streams to identify biosurveillance data meeting all specified (trigger) conditions for patient care and resource utilization requirements requested by authorized Public Health agencies				2.5	3.3	4.2
1049	1	NGIT-065	CDO-CDO NHIN Interface	Shall	Aggregate data for transmission as determined by HITSP implementation guide	Data Transformation-Data Filtering	Core		Bio	1.1.1.2, 1.2.1.2	HITSP implementation guide will need to specify aggregation rules.								2.5	3.3	4.2
520	1	IBM-102-08	CDO-CDO NHIN Interface	Shall	Transform data using approved standards as provided by HITSP or as agreed upon with ONC for the Architecture Prototype	Data Transformation-Data Mapping/Translation	Core		Bio	1.1.3.1	2.3 Individual CDOs - Filter, Transform, Anonymize, Link Requested Data	NGIT-068 NGIT-072 IBM-103-08	NGIT-068 CDO-CDO NHIN Interface Shall Transform data into approved standards	NGIT-072 CDO-CDO NHIN Interface Shall Transmit anonymized data as well formed messages to specific public health agencies	IBM-103-08 CDO-CDO NHIN Interface Shall Transform data using approved standards as provided by HITSP or as agreed upon with ONC for the Architecture Prototype				2.5	3.3	4.2
325	1	CSC-ALL-320	CDO-CDO NHIN Interface	Shall	Use the Record Locator Service to resolve patient indentity ambiguities.	Information Location-Identity/Information Correlation	Core		Infrastructure										2.5	3.4	4.4
347	1	CSC-ALL-770	CDO-CDO NHIN Interface	Shall	Return unambiguous patient identities for all query results.	Information Location-Identity/Information Correlation	Core		Infrastructure		The NHIN Interface uses the Record Locator Service for this.								2.5	3.4	4.4
540	1	IBM-103-13	CDO-CDO NHIN Interface	Should	Minimize double counting. The system should be able to determine when multiple and or independently submitted data refer to the same case (patient) or event.	Information Location-Identity/Information Correlation	Core		Bio	1.2.5.1X	3.4 Integrated CDOs - Route, Transmit, Audit Log Requested Data	IBM-102-13	IBM-102-13 CDO-CDO NHIN Interface Should Minimize double counting. The system should be able to determine when multiple and or independently submitted data refer to the same case (patient) or event.						2.5	3.4	4.2
444	1	CSC-EHR-450	CDO-CDO NHIN Interface	May	Route queries to the Record Locator Service in order to resolve patient identity ambiguities and locate records. Record locations returned to the NHIN Interface are used for routing the query to the proper repositories for processing.	Information Location-Record Location	Core	CSC-ALL-220	EHR - Lab	3.2.3.1, 3.2.3.0, 3.2.3.2, 3.2.3.a,b, 3.2.3.4, 3.5.2.0, 3.5.2.2									2.5	3.4	4.1
599	1	IBM-205-06	CDO-CDO NHIN Interface	Shall	Contain one Record Locator Service (RLS) for NHIN searches	Information Location-Record Location	Core		Infrastructure	2.2.2.3x	3.2 Pre-populating a PHR								2.5	3.4	4.4
600	1	IBM-205-07	CDO-CDO NHIN Interface	Shall	Require that the requesting institution provide appropriate demographic information (presumably brokered by the PHR vendor in this instance) to query data in the NHIN. Data required is determined by the community.	Information Location-Record Location	Core		Infrastructure	2.2.2.3x	3.2 Pre-populating a PHR	IBM-207-07 IBM-209-14	IBM-207-07 CDO-CDO NHIN Interface Shall Require that the requesting institution provide appropriate demographic information to query data in the NHIN. Data required is determined by the community.	IBM-209-14 CDO-CDO NHIN Interface Shall Require that the requesting institution provide appropriate demographic information to query data in the NHIN. Data required is determined by the community.					2.5	3.4	4.4
626	1	IBM-207-06	CDO-CDO NHIN Interface	Shall	Contain one Record Locator Service (RLS) for NHIN searches	Information Location-Record Location	Core		Infrastructure	2.1.5.2x	4.2 Updating a PHR								2.5	3.4	4.4
678	1	IBM-209-13	CDO-CDO NHIN Interface	Shall	Contain one Record Locator Service (RLS) for NHIN searches	Information Location-Record Location	Core		Infrastructure	2.3.1.2x	6.1 Provider access to PHR data								2.5	3.4	4.4
680	1	IBM-209-15	CDO-CDO NHIN Interface	Shall	Specify what marketplaces the Record Locator should search	Information Location-Record Location	Core		Infrastructure	2.3.1.2x	6.1 Provider access to PHR data								2.5	3.4	4.4
308	1	CSC-ALL-10	CDO-CDO NHIN Interface	Shall	Be shared between all entities in a single RHIO or SNO. There is only one NHIN Interface in a SNO, and it is used for all communications with other SNOs over the NHIN.	Non-Functional-Business Rules	Core		Infrastructure										2.5	3.5	4.4
346	1	CSC-ALL-760	CDO-CDO NHIN Interface	Shall	Use the Record Locator Service to resolve ambiguities in the patient's identity, and to locate repositories of data, within the SNO, for that patient.	Non-Functional-Business Rules	Core		Infrastructure										2.5	3.5	4.4
465	1	CSC-NFR-230	CDO-CDO NHIN Interface	Should	Entail low Deployment and Operational Costs, commensurate with technology and investment capacity of the health market.	Non-Functional-Business Rules	Core		Infrastructure										2.5	3.5	4.4
470	1	CSC-NFR-40	CDO-CDO NHIN Interface	Should	Be efficient and not consume more computer resources than is directly useful to the data exchange process [Efficiency]	Non-Functional-Performance	Core		Infrastructure										2.5	3.5	4.4
452	1	CSC-NFR-100	CDO-CDO NHIN Interface	Should	Allow users to install and operate with not more than 4 hours of training [Ease of learning]	Non-Functional-Robustness	Core		Infrastructure										2.5	3.5	4.4
456	1	CSC-NFR-140	CDO-CDO NHIN Interface	Should	Be configurable and extendable to support existing and new workflows	Non-Functional-Robustness	Core		Infrastructure										2.5	3.5	4.4
457	1	CSC-NFR-150	CDO-CDO NHIN Interface	Shall	Be extensible to new message types in a modular fashion; without requiring any changes to the application for the heretofore handled messages	Non-Functional-Robustness	Core		Infrastructure										2.5	3.5	4.4

ID-ONC	#	ID	Entities	Entity – Property Relation	Property	Functional Categories	Entity Role (i.e., Core or Edge)	Link to other requirements	Principal Context	Context Reference	Comments / Rationale	Closely resembles...	Associated Reference 1	Associated Reference 2	Associated Reference 3	Associated Reference 4	Associated Reference 5	Initial Review Comments	Tentative Entity Breakout Session No.	Tentative Functional Category Breakout Session No.	Tentative Use Case Breakout Session No.
458	1	CSC-NFR-160	CDO-CDO NHIN Interface	Should	Enable remote troubleshooting and deployment of application fixes (patches) [Supportable]	Non-Functional-Robustness	Core		Infrastructure										2.5	3.5	4.4
459	1	CSC-NFR-170	CDO-CDO NHIN Interface	Should	Enable problems to be traced and analyzed, so that they can be resolved [Maintainable]	Non-Functional-Robustness	Core		Infrastructure										2.5	3.5	4.4
460	1	CSC-NFR-180	CDO-CDO NHIN Interface	Shall	Provide testing facilities to enable verification of new functionality before deployment to production environments [Testability]	Non-Functional-Robustness	Core		Infrastructure										2.5	3.5	4.4
461	1	CSC-NFR-190	CDO-CDO NHIN Interface	Shall	Provide for remote monitoring of operations, detection of potential problems, and preventive maintenance measures [Manageability]	Non-Functional-Robustness	Core		Infrastructure										2.5	3.5	4.4
473	1	CSC-NFR-70	CDO-CDO NHIN Interface	Should	Support reliable messaging between edge applications that are engaged in the data exchange process	Non-Functional-Robustness	Core		Infrastructure										2.5	3.5	4.4
474	1	CSC-NFR-80	CDO-CDO NHIN Interface	Should	Plan and implement recovery procedures in case of failure of any of its discrete architectural components; recovery times range from near-real time to deferred based on the requirements (and investment) of the health markets [High Availability]	Non-Functional-Robustness	Core		Infrastructure										2.5	3.5	4.4
475	1	CSC-NFR-90	CDO-CDO NHIN Interface	Should	Tolerate errors in data exchange messages and files, as well as other exception conditions, and not disrupt other edge applications in the user work environment. [Fault tolerance]	Non-Functional-Robustness	Core		Infrastructure										2.5	3.5	4.4
472	1	CSC-NFR-60	CDO-CDO NHIN Interface	Should	Be modularly expandable to support higher transaction volumes as usage of the NHIN increases	Non-Functional-Scalability	Core		Infrastructure										2.5	3.5	4.4
1030	1	NGIT-004	CDO-CDO NHIN Interface	Shall	Authenticate entity for NHIN data request	Security-Authentication	Core		Infrastructure										2.5	3.6	4.4
1108	1	NGIT-129	CDO-CDO NHIN Interface	Shall	Authenticate entity for NHIN access	Security-Authentication	Core		Infrastructure										2.5	3.6	4.4
670	1	IBM-209-05	CDO-CDO NHIN Interface	Shall	Maintain a list of authorized users that can access the consumer's PHR data from the NHIN hub	Security-Authorization	Core	EHR - Patient Authorizes Access - IBM-302-01	Infrastructure	2.3.1.1x	6.1 Provider access to PHR data Different rules will apply for queries within a community (from a trusted source), across a community (from a trusted source), and from a non-trusted querying entity. Data source entities will retain the right to share information as per their business rules and data sharing agreements.								2.5	3.6	4.4
672	1	IBM-209-07	CDO-CDO NHIN Interface	Shall	Authorize (or not) provider's request to access consumer's PHR data via the NHIN	Security-Authorization	Core	IBM-209-05	Infrastructure	2.3.1.1x	6.1 Provider access to PHR data								2.5	3.6	4.4
1031	1	NGIT-005	CDO-CDO NHIN Interface	Shall	Authorize an entity's request for data	Security-Authorization	Core		Infrastructure										2.5	3.6	4.4
1126	1	NGIT-151	CDO-CDO NHIN Interface	Shall	Authorize an entity's request for laboratory data 4.1	Security-Authorization	Core		EHR - Lab	3.4.3.3	NHIN will authorize a request for data per agreement and configuration								2.5	3.6	4.1
486	1	CSC-SEC-190	CDO-CDO NHIN Interface	Shall	Enforce NHIN security and privacy policies.	Security-Confidentiality	Core		Infrastructure										2.5	3.6	4.4
519	1	IBM-102-07	CDO-CDO NHIN Interface	Shall	Attach randomized linker before transmission of patient specific data that supports ability to re-identify data when required as part of an authorized public health investigation	Security-Confidentiality	Core		Bio	1.1.2.2	2.3 Individual CDOs - Filter, Transform, Anonymize, Link Requested Data								2.5	3.6	4.2
534	1	IBM-103-07	CDO-CDO NHIN Interface	Shall	Attach randomized linker before transmission of patient specific data that supports ability to re-identify data when required as part of an authorized public health investigation	Security-Confidentiality	Core		Bio	1.2.2.2	3.3 Integrated CDOs - Filter, Transform, Anonymize, Link Requested Data								2.5	3.6	4.2
1050	1	NGIT-066	CDO-CDO NHIN Interface	Shall	Anonymize data for transmission to public health agencies	Security-Confidentiality	Core	NGIT-069	Bio	1.1.2.0, 1.2.2.0	Data anomyization will be performed in a consistent manner.								2.5	3.6	4.2
1053	1	NGIT-069	CDO-CDO NHIN Interface	Shall	Implement a randomized data linker (RDL) for biosurveillance data transmitted to public health agencies	Security-Confidentiality	Core		Bio	1.1.2.2, 1.2.2.2									2.5	3.6	4.2
1095	1	NGIT-116	CDO-CDO NHIN Interface	Shall	Support re-linking identity information to anonymized data per RDL	Security-Confidentiality	Core	NGIT-069	Bio	1.1.2.2, 1.2.2.2									2.5	3.6	4.2
492	1	CSC-SEC-240	CDO-CDO NHIN Interface	Shall	Establish pairwise trust relationships with the entities of the RHIO or SNO.	Security-Credentialing	Core		Infrastructure										2.5	3.6	4.4
954	1	IBM-316-10	CDO-EMR	May	Store lab supplied unique lab order identification information	???-Unknown (IBM)	Edge		EHR - Lab	3.2.z.10	3.4 Process Lab Order								1.1		4.1
888	1	IBM-308-12	CDO-EMR	Shall	Adhere to approved content standards as provided by HITSP when sending request for lab result data to repository	Data Content	Edge		EHR - Lab	3.2.1.1ax	2.2 Clinician Requests Historical Results from Data Repositories								1.1	3.1	4.1
890	1	IBM-308-14	CDO-EMR	Should	Include name of the requesting clinician; the HIPAA designated National Provider ID and name of the clinician's affiliated organization, and identifying information for the requesting marketplace as part of the data request transmission when sending request for lab result data to repository	Data Content	Edge		EHR - Lab	3.2.1.1ax2	2.2 Clinician Requests Historical Results from Data Repositories NOTE: National Provider IDs have not yet been promulgated; as such, this is requirement is stated in the form of "should" to acknowledge prospective health care environment.								1.1	3.1	4.1
946	1	IBM-316-02	CDO-EMR	Shall	Adhere to approved content standards as provided by HITSP when sending lab orders to lab	Data Content	Edge		EHR - Lab	3.2.z.2	3.4 Process Lab Order								1.1	3.1	4.1
947	1	IBM-316-03	CDO-EMR	Should	Include name of the requesting clinician; the HIPAA designated National Provider ID and name of the clinician's affiliated organization; and identifying information for the requesting marketplace as part of the data request transmission when sending lab orders to lab	Data Content	Edge		EHR - Lab	3.2.z.3	3.4 Process Lab Order								1.1	3.1	4.1
948	1	IBM-316-04	CDO-EMR	May	Indicate for lab to send result event messages to ordering clinician's EMR and include in lab order message to lab	Data Content	Edge		EHR - Lab	3.2.z.4	3.4 Process Lab Order								1.1	3.1	4.1
949	1	IBM-316-05	CDO-EMR	May	Indicate to send result event availability notifications to ordering clinician's EMR and include in lab order message sent to lab	Data Content	Edge		EHR - Lab	3.2.z.5	3.4 Process Lab Order								1.1	3.1	4.1
950	1	IBM-316-06	CDO-EMR	May	Indicate for lab to send result availability notification to other clinicians and include in lab order message sent to lab	Data Content	Edge		EHR - Lab	3.2.z.6	3.4 Process Lab Order								1.1	3.1	4.1
1094	1	NGIT-115	CDO-EMR	Should	Identify providers associated in the care of the patient, and their relationship to patient and/or procedures	Data Content	Edge		EHR - Lab	3.1.2.0	Provider relationship to patients is needed to support authorized disclosure of data. EMR systems maintain the patient-provider relationship for the episode of care and specifically for lab tests requested during the period of care. Relationships may be pre-defined by hospital, practice, group policy. Additional patient-provider relationships may be identified at the time tests are ordered or subsequently by primary care providers.								1.1	3.1	4.1
813	1	IBM-306-05	CDO-EMR	Shall	Validate integrity and completeness of new lab result event availability notification message	Data Content-Data Quality/Data Integrity	Edge		EHR - Lab	3.2.2.1x2	1.6 Clinician Notified of New Lab Results	NGIT-122	NGIT-122 CDO-EMR May Verify integrity of unsolicited result transaction						1.1		4.1
815	1	IBM-306-07	CDO-EMR	Shall	Send acknowledgement message to record locator for successful transmission of new lab result event availability notification message	Data Content-Data Quality/Data Integrity	Edge	IBM-305-14	EHR - Lab	3.2.2.1x3	1.6 Clinician Notified of New Lab Results								1.1		4.1
817	1	IBM-306-09	CDO-EMR	Shall	Send error messages to locator service if authenticity content integrity or completeness not validated for transmission of notifications	Data Content-Data Quality/Data Integrity	Edge	IBM-305-15	EHR - Lab	3.2.2.1x4	1.6 Clinician Notified of New Lab Results								1.1		4.1
952	1	IBM-316-08	CDO-EMR	Shall	Receive acknowledgement of order receipt and unique order identifier or error message from lab	Data Content-Data Quality/Data Integrity	Edge		EHR - Lab	3.2.z.9	3.4 Process Lab Order								1.1		4.1
563	1	IBM-106-08	CDO-EMR	Shall	Provide additional/revised patient data (demographics, clinical data, lab and radiology test orders and results) to monitor a previously detected event	Data Content-Data Source	Edge		Bio	1.2.2.8	6.5 PH Community - Monitor Detected Event - Additional CDO Data Applies to ambulatory, acute, and ED.								1.1		4.2
1088	1	NGIT-104	CDO-EMR	Shall	Identify source of externally-provided data	Data Content-Data Source	Edge		CE - Consumer	also an EHR requirement	PHR-provided clinical data needs to be identified								1.1		4.3
85	1	ACN-03.3	CDO-EMR	Shall	Enable providers to access a patient's Electronic Health Record.	Data Content-Data Usage	Edge	N/A	CE, EHR	3.2	It is necessary for participating providers to have access to Electronic Health Records for their patients.								1.1		4.1
86	1	ACN-03.3.1	CDO-EMR	Shall	Enable edge systems to acquire data to populate a Electronic Health Record.	Data Content-Data Usage	Core	N/A	EHR - Lab	3.2	Electronic medical record systems need to have electronic access to patient data.								1.1		4.1
87	1	ACN-03.3.10	CDO-EMR	Shall	Enable providers to more easily report adverse drug reactions.	Data Content-Data Usage	Edge	N/A	EHR - Lab	No Reference	An Electronic Health Record should help providers more easily report adverse drug reactions suffered by their patients to the manufacturer or regulatory agency.								1.1		4.1
88	1	ACN-03.3.11	CDO-EMR	Shall	Capture clinical information as part of the normal health care interaction that can be used for clinical trials in a 21CFR Part 11 compliant manner.	Data Content-Data Usage	Edge	N/A	EHR - Lab	No Reference	This would eliminate the need to key the same data into clinical trial data capture systems.								1.1		4.1
89	1	ACN-03.3.2	CDO-EMR	Shall	Present patient demographic information as part of the Electronic Health Record.	Data Content-Data Usage	Edge	N/A	EHR - Lab	3.2	Physicians can view the demographics of consenting patients as part of the Electronic Health Record.								1.1		4.1
90	1	ACN-03.3.3	CDO-EMR	Shall	Present patient financial and insurance information as part of the Electronic Health Record.	Data Content-Data Usage	Edge	N/A	EHR - Lab	3.2	Physicians can view the financial and insurance information of consenting patients as part of the Electronic Health Record.								1.1		4.1
91	1	ACN-03.3.4	CDO-EMR	Shall	Present patient allergy information as part of the Electronic Health Record.	Data Content-Data Usage	Edge	N/A	EHR - Lab	3.2	Physicians can view the allergy information of consenting patients as part of the Electronic Health Record.								1.1		4.1
92	1	ACN-03.3.5	CDO-EMR	Shall	Present patient medication history as part of the Electronic Health Record.	Data Content-Data Usage	Edge	N/A	EHR - Lab	3.2	Physicians can view the medication history of consenting patients as part of the Electronic Health Record.								1.1		4.1
93	1	ACN-03.3.6	CDO-EMR	Shall	Present patient conditions as part of the Electronic Health Record.	Data Content-Data Usage	Edge	N/A	EHR - Lab	3.2	Physicians can view the health conditions of consenting patients as part of the Electronic Health Record.								1.1		4.1

ID-ONC	#	ID	Entities	Entity – Property Relation	Property	Functional Categories	Entity Role (i.e., Core or Edge)	Link to other requirements	Principal Context	Context Reference	Comments / Rationale	Closely resembles...	Associated Reference 1	Associated Reference 2	Associated Reference 3	Associated Reference 4	Associated Reference 5	Initial Review Comments	Tentative Entity Breakout Session No.	Tentative Functional Category Breakout Session No.	Tentative Use Case Breakout Session No.
94	1	ACN-03.3.7	CDO-EMR		Shall	Present a list of patient procedures and surgeries as part of the Electronic Health Record.	Data Content-Data Usage	Edge	N/A	EHR - Lab	3.2	Physicians can view a list of the procedures and surgeries of consenting patients as part of the Electronic Health Record.								1.1		4.1
95	1	ACN-03.3.8	CDO-EMR		Shall	Present patient laboratory results as part of the Electronic Health Record.	Data Content-Data Usage	Edge	N/A	EHR - Lab	3.2	Physicians can view a list of the laboratory results of consenting patients as part of the Electronic Health Record.								1.1		4.1
96	1	ACN-03.3.9	CDO-EMR		Shall	Enable providers and investigators to find and enroll their patients in clinical trials.	Data Content-Data Usage	Edge	N/A	EHR - Lab	No Reference	An Electronic Health Record should help providers find and enroll their patients in appropriate clinical trials								1.1		4.1
921	1	IBM-311-06	CDO-EMR		Shall	Flag new results within EHR	Data Content-Data Usage	Edge		EHR - Lab	3.2.1.5	2.5 Clinician Receives Results into EHR								1.1		4.1
919	1	IBM-311-04	CDO-EMR		Shall	Parse and validate lab results content	Data Storage-Persistent Data Storage	Edge		EHR - Lab	3.2.1.3	2.5 Clinician Receives Results into EHR								1.1		4.1
920	1	IBM-311-05	CDO-EMR		Shall	Merge data into EHR	Data Storage-Persistent Data Storage	Edge		EHR - Lab	3.2.1.4	2.5 Clinician Receives Results into EHR ONC Guidance: The integration of lab result data into EHRs is a critical part of the use case and should be part of the prototype architecture								1.1		4.1
953	1	IBM-316-09	CDO-EMR		Shall	Store lab order information	Data Storage-Persistent Data Storage	Edge		EHR - Lab	3.2.z.8	3.4 Process Lab Order								1.1		4.1
1117	1	NGIT-140	CDO-EMR		May	Receive, process, and persist laboratory result data	Data Storage-Persistent Data Storage	Edge		EHR - Lab	3.4.1.4	Results may identify restrictions on use of data. (Does this pertain to acute care EMRs only?)								1.1		4.1
870	1	IBM-307-50	CDO-EMR		Shall	Receive the data repository location(s) where the test results are stored	Data Transaction-(Pull)	Edge	IBM-307-47; IBM-307-01	EHR - Lab	3.2.3.4	2.1 Clinician Requests Historical Results Location								1.1	3.2	4.1
875	1	IBM-307-55	CDO-EMR		Shall	Browse and select the relevant test results location information and select locations from which to request data	Data Transaction-(Pull)	Edge		EHR - Lab	3.2.3.3ax6	2.1 Clinician Requests Historical Results Location								1.1	3.2	4.1
877	1	IBM-308-01	CDO-EMR		Shall	Send request for historical lab test result content directly to data repository (local or remote) from EHR or web application	Data Transaction-(Pull)	Edge	IBM-304-20 (IBM-304-18 through 22 may also apply); IBM-309-01	EHR - Lab	3.2.1.1a	2.2 Clinician Requests Historical Results from Data Repositories								1.1	3.2	4.1
879	1	IBM-308-03	CDO-EMR		Should	Submit request for lab test results through a data stager	Data Transaction-(Pull)	Edge		EHR - Lab	3.2.1.1az	2.2 Clinician Requests Historical Results from Data Repositories							Architecturally specific	1.1	3.2	4.1
881	1	IBM-308-05	CDO-EMR		Shall	Conform to approved, vocabulary, structure, privacy, security and messaging standards as provided by HITSP when transmitting patient data.	Data Transaction-(Pull)	Edge		EHR - Lab	3.2.1.1ax3	2.2 Clinician Requests Historical Results from Data Repositories								1.1	3.2	4.1
917	1	IBM-311-02	CDO-EMR		Shall	Receive requested historical lab test results into EHR	Data Transaction-(Pull)	Edge		EHR - Lab	3.2.1.1ax	2.5 Clinician Receives Results into EHR								1.1	3.2	4.1
1086	1	NGIT-102	CDO-EMR		Shall	Process registration data received from CE	Data Transaction-(Pull)	Edge		CE - Consumer		Processing includes receiving, validating, confirming data integrity								1.1	3.2	4.3
1087	1	NGIT-103	CDO-EMR		Shall	Process medication data received from CE	Data Transaction-(Pull)	Edge		CE - Consumer		Processing includes receiving, validating, confirming data integrity								1.1	3.2	4.3
1090	1	NGIT-108	CDO-EMR		shall	Receive and validate request for data from PHR	Data Transaction-(Pull)	Edge		CE - Consumer	2.3.3.1									1.1	3.2	4.3
1092	1	NGIT-110	CDO-EMR		Shall	Support the transmission of registration & medication data	Data Transaction-(Pull)	Edge		CE - Consumer	2.3.3.3									1.1	3.2	4.3
1107	1	NGIT-128	CDO-EMR		Shall	Transmit well formed query request for lab result data	Data Transaction-(Pull)	Edge		EHR - Lab	3.2.3.0		IBM-307-01	IBM-307-01 CDO-EMR Shall Query locator system for laboratory (historical) test results location						1.1	3.2	4.1
1122	1	NGIT-147	CDO-EMR		May	Receive and process well formed query for laboratory test results according to HITSP specified implementation instructions	Data Transaction-(Pull)	Edge		EHR - Lab	3.4.3.0	EMR is potential source of lab result data								1.1	3.2	4.1
916	1	IBM-311-01	CDO-EMR		Shall	Automatically Receive new lab test results into EHR as ordering clinician or provider of care	Data Transaction-(Push)	Edge	IBM-304-18	EHR - Lab	3.2.1.1	2.5 Clinician Receives Results into EHR								1.1	3.2	4.1
945	1	IBM-316-01	CDO-EMR		Shall	Send new, updated or canceled lab test orders to lab	Data Transaction-(Push)	Edge		EHR - Lab	3.2.z.1	3.4 Process Lab Order								1.1	3.2	4.1
951	1	IBM-316-07	CDO-EMR		Shall	Conform to approved, vocabulary, structure, privacy, security and messaging standards as provided by HITSP when transmitting patient data	Data Transaction-(Push)	Edge		EHR - Lab	3.2.z.7	3.4 Process Lab Order								1.1	3.2	4.1
1100	1	NGIT-121	CDO-EMR		May	Receive and process well formed laboratory test results according to HITSP specified standards and implementation instructions	Data Transaction-(Push)	Edge		EHR - Lab	3.2.1.0, 3.4.1.0	In the unsolicited result paradigm, an EMR may be capable of receiving and processing results, especially if it generated the initial order for the test.								1.1	3.2	4.1
1105	1	NGIT-126	CDO-EMR		May	Receive notification of new test results	Data Transaction-(Push)	Edge		EHR - Lab	3.2.2.1	Notifications do not need to be technically complex.	IBM-306-01	IBM-306-01 CDO-EMR Shall Receive notification from locator service that new lab test results events are available						1.1	3.2	4.1
872	1	IBM-307-52	CDO-EMR		Shall	Log location request interaction with locator service	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.2.3.5	2.1 Clinician Requests Historical Results Location								1.1	3.2	4.1
923	1	IBM-311-08	CDO-EMR		Shall	Log receipt of lab test results	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.2.1.7	2.5 Clinician Receives Results into EHR								1.1	3.2	4.1
955	1	IBM-316-11	CDO-EMR		Shall	Log lab order interaction with lab	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.2.z.11	3.4 Process Lab Order								1.1	3.2	4.1
1089	1	NGIT-107	CDO-EMR		Shall	Log interactions of system receiving data from external (PHR) sources	Data Transaction-Audit & Logging	Edge		CE - Consumer	2.3.2.6									1.1	3.2	4.3
1093	1	NGIT-113	CDO-EMR		Shall	Create an exception list when lab results can not be unequivocally be matched to an order/patient/etc.	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.2.1.7a		IBM-311-09 IBM-209-38	IBM-311-09 CDO-EMR Shall Produce exception list of errors	IBM-209-38 CDO May Create an exception list of data that is not imported					1.1	3.2	4.1
1102	1	NGIT-123	CDO-EMR		Shall	Acknowledge receipt of lab result data	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.2.1.6, 3.4.1.3	Acknowledgement will confirm appropriateness or inappropriateness of transmission per validation check.	IBM-311-07	IBM-311-07 CDO-EMR Shall Acknowledge successful receipt of lab results from repository or data stager						1.1	3.2	4.1
1103	1	NGIT-124	CDO-EMR		Shall	Maintain a log of interactions with external data systems	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.2.1.7,3.4.1.6	Log data must include history of the receipt of lab result data from other source systems.								1.1	3.2	4.1
1104	1	NGIT-125	CDO-EMR		Should	Provide listing of lab result transactions received but not processed or loaded into EMR	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.2.1.7a	Log of messages that were received but could not be processed -- including where results could not be unequivocally matched with a patient -- should contain sufficient data to trace transaction to source system.								1.1	3.2	4.1
1055	1	NGIT-070	CDO-EMR		May	Specify destination(s) for tranmission of biosurveillance data	Data Transaction-Data Routing	Edge		Bio	1.1.5.1, 1.2.5.1	May defer determination of destinations to CDO NHIN								1.1	3.3	4.2
850	1	IBM-307-30	CDO-EMR		Shall	Provide ability for clinician to request all available data (from local and remote communities) for specified patient	Data Transformation-Data Filtering	Edge		EHR - Lab	3.2.3.3a	2.1 Clinician Requests Historical Results Location								1.1	3.3	4.1
852	1	IBM-307-32	CDO-EMR		Should	Provide clinician ability to query for results based on one or multiple criteria for a specified patient	Data Transformation-Data Filtering	Edge		EHR - Lab	3.2.3.3ax1	2.1 Clinician Requests Historical Results Location	IBM-307-34 IBM-307-36 IBM-307-38 IBM-307-40 IBM-307-42	IBM-307-34 CDO-EMR Should Provide clinician ability to query for lab results based on a specified date range for a specified patient	IBM-307-36 CDO-EMR Should Provide clinician ability to query for lab results based on one or more types of lab data (chemistry, hematology, pathology, etc) for a specified patient	IBM-307-38 CDO-EMR May Provide clinician ability to query for lab results based on one or more specified lab tests for a specified patient	IBM-307-40 CDO-EMR May Provide clinician ability to query for lab results based on one, more or all local or remote marketplaces for a specified patient	IBM-307-42 CDO-EMR Shall Provide clinician ability to request for specific lab test results based on order number or other unique test result identification		1.1	3.3	4.1
1051	1	NGIT-067	CDO-EMR		May	Transform data into approved standards	Data Transformation-Data Mapping/Translation	Edge		Bio	1.1.3.1, 1.2.3.1									1.1	3.3	4.2
819	1	IBM-306-11	CDO-EMR		Shall	Display notification of new lab result event. The display is easy to understand and the displayed content is determined by the receiving entity.	Data Transformation-Data Rendering	Edge		EHR - Lab	3.2.2.1x	1.6 Clinician Notified of New Lab Results								1.1	3.3	4.1
826	1	IBM-307-06	CDO-EMR		Shall	Send demographic information to record locator to identify patient for query. Data required is determined by the community.	Information Location-Identity/Information Correlation	Edge		EHR - Lab	3.2.3.2	2.1 Clinician Requests Historical Results Location								1.1	3.4	4.1
833	1	IBM-307-13	CDO-EMR		Shall	Provide ability for clinician to browse potential matches and confirm the correct patient for data location retrieval to locator system	Information Location-Identity/Information Correlation	Edge		EHR - Lab	3.2.3.2	2.1 Clinician Requests Historical Results Location								1.1	3.4	4.1
811	1	IBM-306-03	CDO-EMR		Shall	Authenticate record locator sending notification of new lab result event messages	Security-Authentication	Edge		EHR - Lab	3.2.2.1x1	1.6 Clinician Notified of New Lab Results								1.1	3.6	4.1
823	1	IBM-307-03	CDO-EMR		Shall	Submit authentication information to locator system when querying for lab results location	Security-Authentication	Edge		EHR - Lab	3.2.3.1	2.1 Clinician Requests Historical Results Location								1.1	3.6	4.1
883	1	IBM-308-07	CDO-EMR		Shall	Submit authentication information to the data repository if sending data request directly to data repository	Security-Authentication	Edge		EHR - Lab	3.2.1.1b	2.2 Clinician Requests Historical Results from Data Repositories								1.1	3.6	4.1
918	1	IBM-311-03	CDO-EMR		Shall	Authenticate entity sending lab results to EMR	Security-Authentication	Edge		EHR - Lab	3.2.2.1y	2.5 Clinician Receives Results into EHR								1.1	3.6	4.1
1127	1	NGIT-152	CDO-EMR		May	Authorize query request for lab result data	Security-Authorization	Edge		EHR - Lab	3.4.3.3	Additional validation of request may be performed (specifying requisition or order number, dates of activity)								1.1	3.6	4.1
428	1	CSC-EHR-300	CDO-LIS		May	Report results including but not limited to: clinical chemistry, hematology, serology, and microbiology, radiology, cardiology, and neurology.	Data Content	Edge		EHR - Lab	s3	The use case specifically excludes any requirement for radiology, cardiology, and neurology, but these may be available in some of the health market prototypes								2.1	3.1	4.1

ID-ONC	#	ID	Entities	Entity–Property Relation	Property	Functional Categories	Entity Role (i.e., Core or Edge)	Link to other requirements	Principal Context	Context Reference	Comments / Rationale	Closely resembles…	Associated Reference 1	Associated Reference 2	Associated Reference 3	Associated Reference 4	Associated Reference 5	Initial Review Comments	Tentative Entity Breakout Session No.	Tentative Functional Category Breakout Session No.	Tentative Use Case Breakout Session No.
436	1	CSC-EHR-382	CDO-LIS	May	Flag availability, and transmit lab results updates and corrections to the appropriate Repositor(ies). The repository might be part of the LIS	Data Content	Edge	CSC-ALL-380	EHR - Lab	3.2.2.0, 3.2.2.1, 3.3.1.2	EMRs may persist lab results in some SNOs, and LIS may do so in others								2.1	3.1	4.1
759	1	IBM-303-01	CDO-LIS	Shall	Create preliminary, final and updated results for lab test.	Data Content	Edge		EHR - Lab	3.3.1.1	1.3 Lab Processes New Result	CSC-EHR-360 NGIT-119 NGIT-141	CSC-EHR-360 CDO-LIS Should Transmit preliminary, complete, final, and updated lab results to the ordering system or its designee.	NGIT-119 CDO-LIS Shall Transmit well formed result messages according to a HITSP specified implementation instruction.	NGIT-141 CDO-LIS May Transmit well formed result messages according to HITSP specified standards and implementation instructions				2.1	3.1	4.1
763	1	IBM-303-05	CDO-LIS	Shall	Adhere to approved content standards as provided by HITSP when sending lab results data to the repository.	Data Content	Edge		EHR - Lab	3.3.1.2x1	1.3 Lab Processes New Result								2.1	3.1	4.1
764	1	IBM-303-06	CDO-LIS	Shall	Conform to approved, vocabulary, structure, privacy, security and messaging standards as provided by HITSP when transmitting patient data.	Data Content	Edge		EHR - Lab	3.3.1.2x	1.3 Lab Processes New Result								2.1	3.1	4.1
765	1	IBM-303-07	CDO-LIS	Shall	Send data from the lab to the storing repository that includes results data as well as information necessary for indexing and restrictions for use.	Data Content	Edge		EHR - Lab	3.3.1.2x3	1.3 Lab Processes New Result								2.1	3.1	4.1
960	1	IBM-316-16	CDO-LIS	May	Send unique identifier to facilitate electronic retrieval of lab results to clinician	Data Content	Edge		EHR - Lab	3.3.y.5	3.4 Process Lab Order								2.1	3.1	4.1
956	1	IBM-316-12	CDO-LIS	Shall	Authenticate entity sending lab order message	Data Content-Data Quality/Data Integrity	Edge		EHR - Lab	3.3.y.1	3.4 Process Lab Order								2.1		4.1
957	1	IBM-316-13	CDO-LIS	Shall	Validate integrity and completeness of lab order message	Data Content-Data Quality/Data Integrity	Edge		EHR - Lab	3.3.y.2	3.4 Process Lab Order								2.1		4.1
958	1	IBM-316-14	CDO-LIS	Shall	correct lab order error message as necessary	Data Content-Data Quality/Data Integrity	Edge		EHR - Lab	3.3.y.3	3.4 Process Lab Order								2.1		4.1
959	1	IBM-316-15	CDO-LIS	Shall	Send acknowledgement message of receipt of complete lab order to sending entity	Data Content-Data Quality/Data Integrity	Edge		EHR - Lab	3.3.y.4	3.4 Process Lab Order								2.1		4.1
564	1	IBM-106-09	CDO-LIS	Shall	Provide additional/revised lab and radiology test orders and results to monitor a previously detected event	Data Content-Data Source	Edge		Bio	1.z.2.9	6.5 PH Community - Monitor Detected Event - Additional CDO Data Applies to reference lab and CDO lab.								2.1		4.2
761	1	IBM-303-03	CDO-LIS	Shall	Store lab test results in data repository and note restrictions for use (providers of care list, patient consent restrictions or sensitivity restrictions)	Data Storage-Persistent Data Storage	Edge	IBM-303-01; IBM-302-01	EHR - Lab	3.4.1.4	1.3 Lab Processes New Result The performing lab or an entity other than the performing lab may store new lab test result data for the purposes of the NHIN.								2.1		4.1
961	1	IBM-316-17	CDO-LIS	Shall	Store lab order information	Data Storage-Persistent Data Storage	Edge		EHR - Lab	3.3.y.6	3.4 Process Lab Order								2.1		4.1
1097	1	NGIT-118	CDO-LIS	Shall	Collect and persist laboratory result data to support electronic exchange with stakeholders	Data Storage-Persistent Data Storage	Edge		EHR - Lab	3.3.1.1	Data collected by LIS must maintain reference/data links to support association to patient, order								2.1		4.1
1123	1	NGIT-148	CDO-LIS	Shall	Receive and process well formed query for laboratory test results according to HITSP specified implementation instructions	Data Transaction-(Pull)	Edge		EHR - Lab	3.4.3.0	LIS is potential source of lab result data								2.1	3.2	4.1
441	1	CSC-EHR-422	CDO-LIS	May	Send Notification messages and/or Lab results to specified organizations	Data Transaction-(Push)	Edge	CSC-ALL-380	EHR - Lab	3.2.2.0, 3.4.1.5, 3.5.1.0, 3.5.2.4, 3.5.2.5, 3.5.3.0, 3.5.3.1	EMRs may distribute lab results or notifications in some SNOs, and LIS may do so in others								2.1	3.2	4.1
762	1	IBM-303-04	CDO-LIS	Shall	Securely transmit lab result messages to the data repository of the storing entity (if another entity maintains lab data for storage and retrieval for the performing lab for the purposes of the NHIN, the performing lab)	Data Transaction-(Push)	Edge	IBM-303-01	EHR - Lab	3.3.1.2	1.3 Lab Processes New Result This action applies to situations in which the performing lab sends data to be stored in a database other than the performing lab's LIS. For example, a satellite commercial lab may store all lab results in a regional or national data repository for the commercial lab. For some communities, lab result events will be stored in a data repository that is part of the community for purposes of the NHIN.								2.1	3.2	4.1
760	1	IBM-303-02	CDO-LIS	Shall	Log creation of test results	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.3.1.3	1.3 Lab Processes New Result								2.1	3.2	4.1
766	1	IBM-303-08	CDO-LIS	Shall	Log transmission of new lab result event message to the storing entities data repository	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.3.1.2x2	1.3 Lab Processes New Result								2.1	3.2	4.1
1009	1	IBM-319-36	CDO-LIS	Shall	Create audit entry for each transaction	Data Transaction-Audit & Logging	Core		EHR - Lab	3.3.x.1	3.7 Maintain and Access Audit Log								2.1	3.2	4.1
1011	1	IBM-319-38	CDO-LIS	Shall	Include audit content as recommended by HITSP standards or as determined by the marketplace if no standards are available	Data Transaction-Audit & Logging	Core		EHR - Lab	3.3.x.2	3.7 Maintain and Access Audit Log								2.1	3.2	4.1
1013	1	IBM-319-40	CDO-LIS	Shall	Format audit content as recommended by HITSP standards or as determined by the marketplace if no standards are available	Data Transaction-Audit & Logging	Core		EHR - Lab	3.3.x.3	3.7 Maintain and Access Audit Log								2.1	3.2	4.1
1015	1	IBM-319-42	CDO-LIS	Shall	Not allow edits to audit entries	Data Transaction-Audit & Logging	Core		EHR - Lab	3.3.x.4	3.7 Maintain and Access Audit Log								2.1	3.2	4.1
1017	1	IBM-319-44	CDO-LIS	Shall	Store audit entry for amount of time determined by law, accrediting agencies, marketplace and entity	Data Transaction-Audit & Logging	Core		EHR - Lab	3.3.x.3	3.7 Maintain and Access Audit Log								2.1	3.2	4.1
1019	1	IBM-319-46	CDO-LIS	Shall	Provide capability to print audit trail	Data Transaction-Audit & Logging	Core		EHR - Lab	3.3.x.3	3.7 Maintain and Access Audit Log								2.1	3.2	4.1
1021	1	IBM-319-48	CDO-LIS	Shall	Display audit trail only to those authorized to view the audit trail	Data Transaction-Audit & Logging	Core		EHR - Lab	3.3.x.7	3.7 Maintain and Access Audit Log								2.1	3.2	4.1
1099	1	NGIT-120	CDO-LIS	Shall	Maintain log of interactions with external data systems and/or networks	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.3.1.3	Log data must include the destination of transaction (clinician system, data repository)								2.1	3.2	4.1
1128	1	NGIT-153	CDO-LIS	May	Authorize query request for lab result data	Security-Authorization	Edge		EHR - Lab	3.4.3.3	Additional validation of request may be performed (specifying requisition or order number, dates of activity)								2.1	3.6	4.1
506	1	IBM-101-07	CDO-LIS--CDO lab	Shall	Provide lab order data as specified in Biosurveillance use case in HL7 format for filtering by the CDO NHIN Interface System. Lab order data include: order number, order test name, and date and time of order.	Data Content-Data Source	Edge		Bio	1.1.1.0X	1.2 Data Source - CDO and Reference Lab Information Systems								2.1		4.2
507	1	IBM-101-08	CDO-LIS--CDO lab	Shall	Provide lab result data as specified in Biosurveillance use case in HL7 format for filtering by the CDO NHIN Interface System. Lab result data include: reporting lab ID, performing lab ID, report date/time, report status, collection date, collection method, organism, method type, result unit, test interpretation, and test status.	Data Content-Data Source	Edge		Bio	1.1.1.0X	1.2 Data Source - CDO and Reference Lab Information Systems								2.1		4.2
508	1	IBM-101-09	CDO-LIS--Reference lab	Shall	Provide lab order data as specified in Biosurveillance use case in HL7 format for filtering by the CDO NHIN Interface System. Lab order data include: order number, order test name, and date and time of order.	Data Content-Data Source	Edge		Bio	1.1.1.0X	1.2 Data Source - CDO and Reference Lab Information Systems								2.1		4.2
509	1	IBM-101-10	CDO-LIS--Reference lab	Shall	Provide lab result data as specified in Biosurveillance use case in HL7 format for filtering by the CDO NHIN Interface System. Lab result data include: reporting lab ID, performing lab ID, report date/time, report status, collection date, collection method, organism, method type, result unit, test interpretation, and test status.	Data Content-Data Source	Edge		Bio	1.1.1.0X	1.2 Data Source - CDO and Reference Lab Information Systems								2.1		4.2
1119	1	NGIT-142	CDO-LIS--Reference lab	May	Transmit well formed result notification message according to HITSP specified standards and implementation instructions	Data Transaction-(Push)	Edge		EHR - Lab	3.4.2.2	Result notification messages do not contain actual test results. Unsolicited result notifications will update patient record locator that data exists at the transmitting entity's system, and provide network queries the information needed to locate the actual results in source systems.								2.1	3.2	4.1
1058	1	NGIT-073	CDO-Registration	Shall	Electronically collect census and utilization data to support public health reporting	Data Storage-Persistent Data Storage	Edge		Bio										1.1		4.2
310	1	CSC-ALL-190	CDO-Registration	Shall	Push patient demographic identifying information and updates to the Record Locator Service.	Data Transaction-(Push)	Edge		Infrastructure										1.1	3.2	4.4
1059	1	NGIT-074	CDO-Registration	May	Filter collected data records to identify biosurveillance data	Data Transformation-Data Filtering	Edge		Bio										1.1	3.3	4.2
1060	1	NGIT-075	CDO-Registration	May	Aggregate and format census data for transmission to public health agencies	Data Transformation-Data Filtering	Edge		Bio	1.1.1.2, 1.2.1.2	Aggregation and formatting to be implemented per approved specifications								1.1	3.3	4.2
309	1	CSC-ALL-180	CDO-Registration	Shall	Maintain latest available patient identifying information	Information Location-Identity/Information Correlation	Edge		Infrastructure										1.1	3.4	4.4
1136	1	NGIT-161	Consumer System-	Shall	Authenticate the requesting data from external systems	Security-Authentication			CE - Consumer								No defined Entity Role	2.3	3.6	4.3
415	1	CSC-CE-690	Consumer System-Consumer NHIN Interface	Shall	Accept queries from, and return results to, fully-qualified PHRs for registration and medication data.	Data Transaction-(Pull)	Core	CSC-SEC-160, CSC-ALL-750	CE - Consumer	2.4.1.1, 2.4.1.2, 2.4.1.4	These queries must indicate that the query results will be viewed by a consumer.								2.3	3.2	4.3
1084	1	NGIT-100	Consumer System-Consumer NHIN Interface	Shall	Support translating data into appropriate standards for incorporating data into EHRs	Data Transformation-Data Mapping/Translation	Core		CE - Consumer		Determine how to express requirement for viewing of data only (portal)									3.3	4.3
1078	1	NGIT-094	Consumer System-Consumer NHIN Interface	Shall	Authenticate valid NHIN request for the entity supporting the consumer	Security-Authentication	Core		CE - Consumer											3.6	4.3
668	1	IBM-209-03	Consumer System-Consumer NHIN Interface	May	Maintain a queriable marketplace-based registry to correlate to possible PHRs	Security-Authorization	Core		Infrastructure	2.z.4.1	6.1 Provider access to PHR data									3.6	4.4
717	1	IBM-212-01	Consumer System-PHR	May	Be able to retrieve clinical notes	Data Content	Edge		CE - Consumer	2.z.3.1	8.1 PHR Clinical Content							Feature of Edge System	2.3	3.1	4.3
718	1	IBM-212-02	Consumer System-PHR	May	Be able to retrieve lab results	Data Content	Edge		CE - Consumer	2.z.3.2	8.1 PHR Clinical Content							Feature of Edge System	2.3	3.1	4.3

ID-ONC	#	ID	Entities	Entity – Property Relation	Property	Functional Categories	Entity Role (i.e., Core or Edge)	Link to other requirements	Principal Context	Context Reference	Comments / Rationale	Closely resembles…	Associated Reference 1	Associated Reference 2	Associated Reference 3	Associated Reference 4	Associated Reference 5	Initial Review Comments	Tentative Entity Breakout Session No.	Tentative Functional Category Breakout Session No.	Tentative Use Case Breakout Session No.
720	1	IBM-212-04	Consumer System-PHR	May	Capture and maintain data on clinical encounters and outpatient and inpatient procedures, including date, facility, attending Health Care Provider, diagnoses procedures, and type of encounter	Data Content	Edge		CE - Consumer	2.z.3.4	8.1 PHR Clinical Content							Feature of Edge System	2.3	3.1	4.3
721	1	IBM-212-05	Consumer System-PHR	May	Capture and maintain the presence and/or absence of a history of major diseases among the PHR Account Holder's close blood relatives	Data Content	Edge		CE - Consumer	2.z.3.5	8.2 PHR Consumer Data Entry							Feature of Edge System	2.3	3.1	4.3
722	1	IBM-212-06	Consumer System-PHR	May	Capture and maintain the PHR Account Holder's health problem list. Provide ability to manage the problem list over time	Data Content	Edge		CE - Consumer	2.z.3.6	8.2 PHR Consumer Data Entry							Feature of Edge System	2.3	3.1	4.3
723	1	IBM-212-07	Consumer System-PHR	May	Capture and maintain the PHR Account Holder's list of known allergens and adverse reactions with all pertinent information	Data Content	Edge		CE - Consumer	2.z.3.7	8.2 PHR Consumer Data Entry							Feature of Edge System	2.3	3.1	4.3
724	1	IBM-212-08	Consumer System-PHR	May	Capture and maintain the PHR Account Holder's immunizations in a way that can be easily viewed over time	Data Content	Edge		CE - Consumer	2.z.3.8	8.2 PHR Consumer Data Entry							Feature of Edge System	2.3	3.1	4.3
729	1	IBM-212-13	Consumer System-PHR	May	Capture the PHR Account Holder's advanced directive as well as the date and circumstances under which the directives are provided, and/or the location and/or custodian's contact information for any legally attested records of advanced directives as appropriate	Data Content	Edge		CE - Consumer	2.z.3.13	8.2 PHR Consumer Data Entry							Feature of Edge System	2.3	3.1	4.3
734	1	IBM-212-18	Consumer System-PHR	May	Display health data — both patient sourced and professionally sourced — with consumer-friendly terminology	Data Content	Edge		CE - Consumer	2.z.3.18	8.3 PHR Usability and User Preferences							Feature of Edge System	2.3	3.1	4.3
749	1	IBM-212-33	Consumer System-PHR	May	Provide access to the PHR Account Holder's care plan(s)	Data Content	Edge		CE - Consumer	2.z.3.33	8.10 PHR Health Plan Administration							Feature of Edge System	2.3	3.1	4.3
750	1	IBM-212-34	Consumer System-PHR	May	Provide access to financial data from clinical and pharmacy sources	Data Content	Edge		CE - Consumer	2.z.3.34	8.11 PHR Consumer Health Financial Tools							Feature of Edge System	2.3	3.1	4.3
754	1	IBM-212-38	Consumer System-PHR	Should	Retain data according to SLAs	Data Content	Edge		CE - Consumer	2.z.3.38	8.13 PHR Administration							Feature of Edge System	2.3	3.1	4.3
748	1	IBM-212-32	Consumer System-PHR	May	Offer the ability to read remote electronic medication or diagnostics monitoring devices	Data Content-Data Source	Edge		CE - Consumer	2.z.3.32	8.9 PHR Remote Diagnostic Monitoring Interfaces								2.3		4.3
76	1	ACN-03.1.1	Consumer System-PHR	Shall	Enable edge systems to acquire data to populate a Personal Health Record.	Data Content-Data Usage	Core	N/A	CE - Consumer	2.1.4.2	Personal health record systems need to have electronic access to patient data.								2.3		4.3
77	1	ACN-03.1.2	Consumer System-PHR	Shall	Present patient demographic information as part of the Personal Health Record.	Data Content-Data Usage	Edge	N/A	CE - Consumer	2.1.4	Patients, who have consented, can view their patient demographic information as part of the Personal Health Record.								2.3		4.3
78	1	ACN-03.1.3	Consumer System-PHR	Shall	Present patient financial and insurance information as part of the Personal Health Record.	Data Content-Data Usage	Edge	N/A	CE - Consumer	2.1.4	Patients, who have consented, can view their patient financial and insurance information as part of the Personal Health Record.								2.3		4.3
79	1	ACN-03.1.4	Consumer System-PHR	Shall	Present patient allergy information as part of the Personal Health Record.	Data Content-Data Usage	Edge	N/A	CE - Consumer	2.1.4	Patients, who have consented, can view their allergy information as part of the Personal Health Record.								2.3		4.3
80	1	ACN-03.1.5	Consumer System-PHR	Shall	Present patient medication history as part of the Personal Health Record.	Data Content-Data Usage	Edge	N/A	CE - Consumer	2.1.4	Patients, who have consented, can view their medication history as part of the Personal Health Record.								2.3		4.3
81	1	ACN-03.1.6	Consumer System-PHR	Shall	Present patient conditions as part of the Personal Health Record.	Data Content-Data Usage	Edge	N/A	CE - Consumer	No Reference	Patients, who have consented, can view their health conditions as part of the Personal Health Record.								2.3		4.3
82	1	ACN-03.1.7	Consumer System-PHR	Shall	Present a list of patient procedures and surgeries as part of the Personal Health Record.	Data Content-Data Usage	Edge	N/A	CE - Consumer	No Reference	Patients, who have consented, can view a list of their procedures and surgeries as part of the Personal Health Record.								2.3		4.3
83	1	ACN-03.2.1	Consumer System-PHR	Shall	Enable patient proxies to access the Personal Health Record of their associated patients.	Data Content-Data Usage	Edge	N/A	CE - Consumer	2.1.2	Personal health records must allow patient proxies to access the same information that the patient can access.								2.3		4.3
84	1	ACN-03.2.2	Consumer System-PHR	Shall	Enable patients and their proxies to find and enroll in appropriate clinical trials	Data Content-Data Usage	Edge	N/A	CE - Consumer	No Reference	A Personal Health Record should help the patient find and enroll in clinical trials								2.3		4.3
646	1	IBM-207-26	Consumer System-PHR	Shall	Allow for edits	Data Content-Data Usage	Edge	IBM-205-01	CE - Consumer	2.1.5.4x	4.2 Updating a PHR Note difference - some fields fully editable while others can only be annotated. Also, some fields can only be changed by directly contacting PHR administrator.	CSC-CE-570	CSC-CE-570 Consumer System-PHR Shall Enable consumer to modify consumer-entered data						2.3		4.3
725	1	IBM-212-09	Consumer System-PHR	May	Enable the PHR Account Holder to add past and present information about other modalities of treatment used	Data Content-Data Usage	Edge		CE - Consumer	2.z.3.9	8.2 PHR Consumer Data Entry							Feature of Edge System	2.3		4.3
726	1	IBM-212-10	Consumer System-PHR	May	Enable the PHR Account Holder to self-report symptoms or concerns in a chronologically sortable diary	Data Content-Data Usage	Edge		CE - Consumer	2.z.3.10	8.2 PHR Consumer Data Entry							Feature of Edge System	2.3		4.3
727	1	IBM-212-11	Consumer System-PHR	May	Enable the PHR Account Holder to add information about religious/spiritual beliefs that he or she wants Health Care Providers to know	Data Content-Data Usage	Edge		CE - Consumer	2.z.3.11	8.2 PHR Consumer Data Entry							Feature of Edge System	2.3		4.3
728	1	IBM-212-12	Consumer System-PHR	May	Enable the PHR Account Holder to add information about personal health goals, next steps or other notes related to his or her health or conditions, or any other information he or she wants Health Care Providers to know	Data Content-Data Usage	Edge		CE - Consumer	2.z.3.12	8.2 PHR Consumer Data Entry							Feature of Edge System	2.3		4.3
732	1	IBM-212-16	Consumer System-PHR	May	Provide one-screen bulleted and printable health summary	Data Content-Data Usage	Edge		CE - Consumer	2.z.3.16	8.3 PHR Usability and User Preferences							Feature of Edge System	2.3		4.3
733	1	IBM-212-17	Consumer System-PHR	May	Enable an Authorized PHR User to display laboratory and test results by means of flow sheets, graphs, or other tools that enable the discovery of trends	Data Content-Data Usage	Edge		CE - Consumer	2.z.3.17	8.3 PHR Usability and User Preferences							Feature of Edge System	2.3		4.3
735	1	IBM-212-19	Consumer System-PHR	May	Provide multiple printer friendly functions to allow consumer to create hard copies of records	Data Content-Data Usage	Edge		CE - Consumer	2.z.3.19	8.3 PHR Usability and User Preferences							Feature of Edge System	2.3		4.3
736	1	IBM-212-20	Consumer System-PHR	May	Track and graph tests over time	Data Content-Data Usage	Edge		CE - Consumer	2.z.3.20	8.3 PHR Usability and User Preferences							Feature of Edge System	2.3		4.3
737	1	IBM-212-21	Consumer System-PHR	May	Offer patient education and self-care modules	Data Content-Data Usage	Edge		CE - Consumer	2.z.3.21	8.4 PHR Healthy Tools and Content							Feature of Edge System	2.3		4.3
738	1	IBM-212-22	Consumer System-PHR	May	Create and offer links to other educational sites	Data Content-Data Usage	Edge		CE - Consumer	2.z.3.22	8.4 PHR Healthy Tools and Content							Feature of Edge System	2.3		4.3
739	1	IBM-212-23	Consumer System-PHR	May	Offer secure electronic communication between consumer and provider	Data Content-Data Usage	Edge		CE - Consumer	2.z.3.23	8.5 PHR Consumer/Provider Communications and Alerts								2.3		4.3
740	1	IBM-212-24	Consumer System-PHR	May	Offer provider initiated auto-reminders for the PHR Account Holder	Data Content-Data Usage	Edge		CE - Consumer	2.z.3.24	8.5 PHR Consumer/Provider Communications and Alerts							Feature of Edge System	2.3		4.3
741	1	IBM-212-25	Consumer System-PHR	May	Provide access to intake forms	Data Content-Data Usage	Edge		CE - Consumer	2.z.3.25	8.6 PHR Appointment and Pre-admit Workflow								2.3		4.3
742	1	IBM-212-26	Consumer System-PHR	May	Allow the consumer to request appointments with their care providers through PHR	Data Content-Data Usage	Edge		CE - Consumer	2.z.3.26	8.6 PHR Appointment and Pre-admit Workflow								2.3		4.3
743	1	IBM-212-27	Consumer System-PHR	May	Allow for preliminary screenings and follow-ups with secure messaging	Data Content-Data Usage	Edge		CE - Consumer	2.z.3.27	8.6 PHR Appointment and Pre-admit Workflow								2.3		4.3
744	1	IBM-212-28	Consumer System-PHR	May	Check drug-to-drug interactions	Data Content-Data Usage	Edge		CE - Consumer	2.z.3.28	8.7 PHR Drug and Prescription Tools								2.3		4.3
745	1	IBM-212-29	Consumer System-PHR	May	Check insurance coverage for prescribed drugs	Data Content-Data Usage	Edge		CE - Consumer	2.z.3.29	8.7 PHR Drug and Prescription Tools								2.3		4.3
746	1	IBM-212-30	Consumer System-PHR	May	Remind the PHR Account Holder about prescription renewals	Data Content-Data Usage	Edge		CE - Consumer	2.z.3.30	8.7 PHR Drug and Prescription Tools								2.3		4.3
747	1	IBM-212-31	Consumer System-PHR	May	Support biosurveillance and data mining activity	Data Content-Data Usage	Edge		CE - Consumer	2.z.3.31	8.8 PHR Linkage to Biosurveillance, Disease Management and Clinical Research								2.3		4.3
751	1	IBM-212-35	Consumer System-PHR	May	Offer health care cost estimate tools	Data Content-Data Usage	Edge		CE - Consumer	2.z.3.35	8.11 PHR Consumer Health Financial Tools							Feature	2.3		4.3
403	1	CSC-CE-560	Consumer System-PHR	Shall	Persist PHR information	Data Storage-Persistent Data Storage	Edge		CE - Consumer	2.1.4.3, 2.1.5.3, 2.1.5.5								Feature of Edge System	2.3		4.3
406	1	CSC-CE-590	Consumer System-PHR	Shall	Persist consumer edits and annotations to PHR information	Data Storage-Persistent Data Storage	Edge		CE - Consumer									Feature of Edge System	2.3		4.3
407	1	CSC-CE-600	Consumer System-PHR	Shall	Close PHR account when requested by authenticated consumer.	Data Storage-Persistent Data Storage	Edge		CE - Consumer	2.1.6.1, 2.2.4.3			IBM-211-01	IBM-211-01 Consumer System-PHR Shall Terminate PHR account						2.3		4.3
408	1	CSC-CE-620	Consumer System-PHR	Shall	Notify customer that PHR account is closed	Data Storage-Persistent Data Storage	Edge		CE - Consumer	2.1.6.2, 2.2.4.4			NGIT-098	NGIT-098 Consumer System-PHR Shall Support termination of a consumers account						2.3		4.3
412	1	CSC-CE-670	Consumer System-PHR	May	Establish a PHR account containing user authentication credentials	Data Storage-Persistent Data Storage	Edge		CE - Consumer	2.2.1.2										2.3		4.3
654	1	IBM-207-34	Consumer System-PHR	Shall	Import annotated/modified data into the PHR system	Data Storage-Persistent Data Storage	Edge		CE - Consumer	2.1.5.5x	4.2 Updating a PHR								2.3		4.3
1066	1	NGIT-082	Consumer System-PHR	Shall	Support creation of unique consumer account	Data Storage-Persistent Data Storage	Edge		CE - Consumer		validation of 'owner' of account; can be created by third party 'owner' ; need to specify means of uniquely identifying person associated with the account								2.3		4.3
413	1	CSC-CE-678	Consumer System-PHR	May	Input data from, or store data to, offline storage devices	Data Transaction-(Pull)	Edge		CE - Consumer	2.2.2.3	This is also a mechanism for a CDO or PHR to transfer personal health records without network access.							Feature of edge system	2.3	3.2	4.3
414	1	CSC-CE-680	Consumer System-PHR	May	Query other PHRs for accessible data using consumer provided credentials	Data Transaction-(Pull)	Edge		CE - Consumer	2.2.2.3	This is not an NHIN query								2.3	3.2	4.3
418	1	CSC-CE-740	Consumer System-PHR	Shall	Acknowledge receipt of and validate the format of received messages and requests	Data Transaction-(Pull)	Edge	CSC-SEC-40, CSC-ALL-680	CE - Consumer	2.2.2.5										2.3	3.2	4.3
597	1	IBM-205-04	Consumer System-PHR	Shall	Transmit request for registration/medication history data to data/network systems to query documents from the NHIN	Data Transaction-(Pull)	Edge	IBM-205-01	CE - Consumer	2.2.2.3	3.2 Pre-populating a PHR ONC Guidance: Architecturally, the PHR may be a primary source of some data and definitely will be a secondary source of some data. Although synchronization issues around reconciliation of multiple sources of medication data are out of scope, the network services necessary to handle data exchange, requests for correction and the handling of annotated data are within scope.		NGIT-085 NGIT-086 NGIT-088 NGIT-087	NGIT-088 Consumer System-PHR Shall Transmit well formed query request for medication history data	NGIT-085 Consumer System-PHR Shall Support user request to collect registration data from external source	NGIT-086 Consumer System-PHR Shall Support user request to collect medication history data from external source(s)				2.3	3.2	4.3

ID-ONC	#	ID	Entities	Entity – Property Relation	Property	Functional Categories	Entity Role (i.e., Core or Edge)	Link to other requirements	Principal Context	Context Reference	Comments / Rationale	Closely resembles...	Associated Reference 1	Associated Reference 2	Associated Reference 3	Associated Reference 4	Associated Reference 5	Initial Review Comments	Tentative Entity Breakout Session No.	Tentative Functional Category Breakout Session No.	Tentative Use Case Breakout Session No.
607	1	IBM-205-14	Consumer System-PHR	Shall	Aggregate appropriate records from NHIN query	Data Transaction-(Pull)	Core	IBM-205-11	Infrastructure	2.2.2.3x	3.2 Pre-populating a PHR Aggregation may occur via any number of means. For the prototype, all appropriate records will be displayed in reverse chronological order. In a production system, we would expect multiple variations controlled by unique preferences to make the system more user friendly (i.e. pre-aggregation of certain records, sub-queries within the retrieved record cache, etc.)								2.3	3.2	4.4
611	1	IBM-205-18	Consumer System-PHR	Shall	Use a medication transaction broker to pre-populate PHR with registration and medication history data	Data Transaction-(Pull)	Edge	IBM-205-01	CE - Consumer	2.2.2.3	3.2 Pre-populating a PHR One approach, most likely to be employed during the prototype, is to pre-populate from PBM exchanges. However, as more institution participate, HL7 feeds will become more robust and data could be pulled from the NHIN.							Architecturally specific	2.3	3.2	4.3
634	1	IBM-207-14	Consumer System-PHR	Shall	Aggregate appropriate records from NHIN query	Data Transaction-(Pull)	Edge	IBM-207-11	CE - Consumer	2.1.5.2x	4.2 Updating a PHR Aggregation may occur via any number of means. For the prototype, all appropriate records will be displayed in reverse chronological order. In a production system, we would expect multiple variations controlled by unique preferences to make the system more user friendly (i.e. pre-aggregation of certain records, sub-queries within the retrieved record cache, etc.)								2.3	3.2	4.3
638	1	IBM-207-18	Consumer System-PHR	May	Use a medication transaction broker to pull updated registration and medication history data into the PHR	Data Transaction-(Pull)	Edge	IBM-207-01	CE - Consumer	2.1.5.2x	4.2 Updating a PHR							Architecturally specific	2.3	3.2	4.3
711	1	IBM-211-04	Consumer System-PHR	May	Import standardized data when creating a new PHR account	Data Transaction-(Pull)	Edge		CE - Consumer	2.2.4.3x	7.2 Closing a PHR								2.3	3.2	4.3
1073	1	NGIT-089	Consumer System-PHR	Shall	Receive and process registration data	Data Transaction-(Pull)	Edge		CE - Consumer	2.1.5.3		CSC-CE-730 IBM-205-21 IBM-207-21	IBM-205-21 Consumer System-PHR Shall Receive registration/medication history into the PHR/database	IBM-207-21 Consumer System-PHR Shall Receive registration/medication history into the PHR/database	CSC-CE-730 Consumer System-PHR Shall Receive data from another PHR or Repository in response to an authorized query				2.3	3.2	4.3
1074	1	NGIT-090	Consumer System-PHR	Shall	Receive and process medication data	Data Transaction-(Pull)	Edge		CE - Consumer	2.1.5.3		CSC-CE-730 IBM-205-21 IBM-207-21	IBM-205-21 Consumer System-PHR Shall Receive registration/medication history into the PHR/database	IBM-207-21 Consumer System-PHR Shall Receive registration/medication history into the PHR/database	CSC-CE-730 Consumer System-PHR Shall Receive data from another PHR or Repository in response to an authorized query				2.3	3.2	4.3
1075	1	NGIT-091	Consumer System-PHR	Shall	Acknowledge receipt of data	Data Transaction-(Pull)	Edge		CE - Consumer		PHR shall acknowledge receipt; CDO NHIN may acknowledge acknowledgement	IBM-205-23 IBM-207-23	IBM-205-23 Consumer System-PHR Shall Acknowledge receipt of registration/medication data	IBM-207-23 Consumer System-PHR Shall Acknowledge receipt of registration/medication data					2.3	3.2	4.3
1077	1	NGIT-093	Consumer System-PHR	Shall	Provide listing of lab result transactions received but not processed or loaded into EMR	Data Transaction-(Pull)	Edge		CE - Consumer		Processing includes receiving, validating								2.3	3.2	4.3
1080	1	NGIT-096	Consumer System-PHR	Shall	Transmit registration data to authorized system	Data Transaction-(Pull)	Edge		CE - Consumer		Clarify whether data will / will not be coded; translation needed (for EMR) or not (portal)	IBM-207-04 CSC-CE-770	IBM-207-04 Consumer System-PHR Shall Transmit request for registration/medication history data to data/network systems	CSC-CE-770 Consumer System-PHR May Transmit registration and/or medication data in response to a query					2.3	3.2	4.3
1081	1	NGIT-097	Consumer System-PHR	Shall	Transmit medication data to authorized system	Data Transaction-(Pull)	Edge		CE - Consumer			IBM-207-04 CSC-CE-770	IBM-207-04 Consumer System-PHR Shall Transmit request for registration/medication history data to data/network systems	CSC-CE-770 Consumer System-PHR May Transmit registration and/or medication data in response to a query					2.3	3.2	4.3
651	1	IBM-207-31	Consumer System-PHR	Shall	Transmit consumer modified registration and medication history data to the PHR	Data Transaction-(Push)	Edge		CE - Consumer	2.1.5.5	4.2 Updating a PHR								2.3	3.2	4.3
653	1	IBM-207-33	Consumer System-PHR	Shall	Transmit data according to HITSP standards	Data Transaction-(Push)	Edge		CE - Consumer	2.1.5.5x	4.2 Updating a PHR	IBM-207-32	IBM-207-32 Consumer System-PHR Shall Transmit data according to web-based security standards (SSL, etc.)	CSC-CE-770 Consumer System-PHR May Transmit registration and/or medication data in response to a query	IBM-207-04 Consumer System-PHR Shall Transmit request for registration/medication history data to data/network systems				2.3	3.2	4.3
659	1	IBM-207-39	Consumer System-PHR	May	Receive request from consumer to transfer registration and medication history to another PHR when closing initial PHR	Data Transaction-(Push)	Edge		CE - Consumer	2.1.6.1a	4.2 Updating a PHR								2.3	3.2	4.3
674	1	IBM-209-09	Consumer System-PHR	Shall	Provide appropriate PHR data in HITSP approved format - CDA compliant - when viewing directly from PHR system/web portal	Data Transaction-(Push)	Edge		CE - Consumer	2.3.1.2x	6.1 Provider access to PHR data								2.3	3.2	4.3
709	1	IBM-211-02	Consumer System-PHR	May	Transfer registration and medication history data to a different provider of services	Data Transaction-(Push)	Edge		CE - Consumer	2.2.4.3x	7.2 Closing a PHR	NGIT-099	NGIT-099 Consumer System-PHR Shall Support transmission of registration and medication history data to a subsequent provider of PHR services						2.3	3.2	4.3
710	1	IBM-211-03	Consumer System-PHR	Shall	Export PHR data in a standardized format	Data Transaction-(Push)	Edge		CE - Consumer	2.2.4.3x	7.2 Closing a PHR								2.3	3.2	4.3
713	1	IBM-211-06	Consumer System-PHR	Shall	Follow data encryption standards governed by HITSP	Data Transaction-(Push)	Core		Infrastructure	2.2.4.3x	7.2 Closing a PHR								2.3	3.2	4.4
1076	1	NGIT-092	Consumer System-PHR	Shall	Maintain log of interactions with external data systems	Data Transaction-Audit & Logging	Edge		CE - Consumer		maintain history of requests for data, receipt of data								2.3	3.2	4.3
393	1	CSC-CE-100	Consumer System-PHR	May	Contain the following data linked to a patient ID: demographic data; financial information sufficient for insurance elibibility checking and claims processing; basic clinical information including allergies and medication history	Data Transaction-Data Access and Update	Edge		CE - Consumer	p.5.s3.B, p.5.s3.C									2.3	3.2	4.3
396	1	CSC-CE-430	Consumer System-PHR	May	Have the capability for consumers to transfer their data from one PHR to another PHR	Data Transaction-Data Access and Update	Edge		CE - Consumer										2.3	3.2	4.3
401	1	CSC-CE-540	Consumer System-PHR	Shall	Accept consumer request to locate and retrieve their PHR data from another PHR	Data Transaction-Data Access and Update	Edge		CE - Consumer	2.1.4.2, 2.1.5.2, 2.2.2.1	This PHR to PHR interaction does not involve the NHIN								2.3	3.2	4.3
402	1	CSC-CE-550	Consumer System-PHR	Shall	Present information in PHR to the consumer including date and source of data	Data Transaction-Data Access and Update	Edge		CE - Consumer	CE-p.8.s5.2, CE-p.6.s3.D5, 2.1.4.3, 2.1.5.3									2.3	3.2	4.3
405	1	CSC-CE-580	Consumer System-PHR	Shall	Enable consumer to annotate non-user-modifiable data.	Data Transaction-Data Access and Update	Edge	CSC-ALL-710	CE - Consumer	CE-p.8.s5.3, 2.1.5.4a, 2.1.5.5, 2.1.5.5.a			IBM-207-27	IBM-207-27 Consumer System-PHR Shall Allow for annotations					2.3	3.2	4.3
416	1	CSC-CE-70	Consumer System-PHR	Shall	Provide a secure electronic patient demographic and health history which can be accessed, viewed and updated by the consumer and shared with others at the consumer's choice	Data Transaction-Data Access and Update	Edge		CE - Consumer	p.2, p.5.s3.A5, p.6.s3.D1, p.6.s3.D2, p.6.s3.D3, p.6.s3.D4, p.9.s7.1	Top PHR specification								2.3	3.2	4.3
581	1	IBM-201-01	Consumer System-PHR	Shall	Display home page of selected PHR to consumer	Data Transaction-Data Access and Update	Edge		CE - Consumer	2.1.1.0	1.1 Opening a PHR The consumer shall select a PHR from a number of possible vendors. Vendors may be software companies, or sponsoring organizations such as hospitals, payers, ambulatory practices, schools, etc. A consumer's particular medical condition (family history, diabetes, managing other chronic condition, etc.) should be taken into account when choosing a PHR. Given this landscape, PHR should be able to support multiple languages, have translation services (clinical data into readable language), and serve those that do not have web access. It is assumed that the PHR data will originate from medication transaction brokers (health information intermediaries) or from participating institutions that stream HL7 data into the NHIN.								2.3	3.2	4.3
594	1	IBM-205-01	Consumer System-PHR	Shall	Allow consumer to request that PHR be pre-populated with registration and medication history data for the first time (either through the NHIN or medication transaction brokers)	Data Transaction-Data Access and Update	Edge		CE - Consumer	2.1.4.2	3.2 Pre-populating a PHR The PHR will be updated based on a 'triggered' model when the consumer requests that the PHR be updated with available information. Registration information includes: Last name, first name, middle name, street address, city, state, zip code, home telephone, work telephone, cell phone, e-mail address, emergency contact(s), relationship to patient, home telephone, work telephone, e-mail address, patient's gender, DOB, SSN, ethnicity/race, height, weight, insurance coverage identification number, group number, policy number, subscriber, subscriber relationship, and known allergies. Medication history includes: current medication name (proprietary or generic), administration mode, dosage, administration frequency, prescribing physician, and past medications [medication name, condition, start and stop dates, dosage]. NOTE: Whether the PHR is pre-populated via a medication broker or via the NHIN will be dictated by the marketplace in question.								2.3	3.2	4.3

ID-ONC	#	ID	Entities	Entity – Property Relation	Property	Functional Categories	Entity Role (i.e., Core or Edge)	Link to other requirements	Principal Context	Context Reference	Comments / Rationale	Closely resembles...	Associated Reference 1	Associated Reference 2	Associated Reference 3	Associated Reference 4	Associated Reference 5	Initial Review Comments	Tentative Entity Breakout Session No.	Tentative Functional Category Breakout Session No.	Tentative Use Case Breakout Session No.
621	1	IBM-207-01	Consumer System-PHR	Shall	Request that PHR be populated with up-to-date (i.e. not initial pre-populated) registration and medication history data (either through the NHIN or medication transaction brokers)	Data Transaction-Data Access and Update	Edge		CE - Consumer	2.1.5.2	4.2 Updating a PHR NOTE: Whether the PHR is pre-populated via a medication broker or via the NHIN will be dictated by the marketplace in question.								2.3	3.2	4.3
661	1	IBM-208-01	Consumer System-PHR	Shall	Allow the consumer to select whether their PHR data will be available via the NHIN	Data Transaction-Data Access and Update	Edge		Infrastructure	2.z.2.1	5.1 PHR on the NHIN								2.3	3.2	4.4
719	1	IBM-212-03	Consumer System-PHR	May	Allow for modifications and annotations in lab results, clinical notes, etc.	Data Transaction-Data Access and Update	Edge		CE - Consumer	2.z.3.3	8.1 PHR Clinical Content								2.3	3.2	4.3
731	1	IBM-212-15	Consumer System-PHR	May	Allow consumer to hide clinical data, lab results, family history, etc.	Data Transaction-Data Access and Update	Edge		CE - Consumer	2.z.3.15	8.3 PHR Usability and User Preferences								2.3	3.2	4.3
752	1	IBM-212-36	Consumer System-PHR	Shall	Adhere to the laws (federal, state, local, and business) governing how minors' records can be accessed by a third party across marketplaces	Data Transaction-Data Access and Update	Edge		CE - Consumer	2.z.3.36	8.12 PHR Federal, State, Local and Business Laws and Regulations								2.3	3.2	4.3
753	1	IBM-212-37	Consumer System-PHR	Should	Provide Service Level Agreement to Consumer regarding availability of PHR service	Data Transaction-Data Access and Update	Edge		CE - Consumer	2.z.3.37	8.13 PHR Administration							Feature of Edge System	2.3	3.2	4.3
714	1	IBM-211-07	Consumer System-PHR	Shall	Transmit confirmation that PHR has been closed (or closed and transferred)	Data Transaction-Data Transaction Verification	Edge		CE - Consumer	2.2.4.4	7.2 Closing a PHR								2.3	3.2	4.3
715	1	IBM-211-08	Consumer System-PHR	May	Transmit notification that PHR data has been transferred to another vendor	Data Transaction-Data Transaction Verification	Edge		CE - Consumer	2.1.6.2	7.2 Closing a PHR	CSC-CE-630	CSC-CE-630 Consumer System-PHR Shall Notify customer that PHR data is transmited to another PHR						2.3	3.2	4.3
608	1	IBM-205-15	Consumer System-PHR	Shall	Receive registration/medication history to pre-populate PHR via NHIN	Data Transformation-Data Mapping/Translation	Edge	IBM-205-04	Infrastructure	2.2.2.4x	3.2 Pre-populating a PHR								2.3	3.3	4.4
635	1	IBM-207-15	Consumer System-PHR	Shall	Receive registration/medication history to update PHR via NHIN	Data Transformation-Data Mapping/Translation	Edge	IBM-207-04	CE - Consumer	2.1.5.2x	4.2 Updating a PHR								2.3	3.3	4.3
648	1	IBM-207-28	Consumer System-PHR	May	Map information entered by PHR Account Holders to controlled, standardized code sets or nomenclature when feasible	Data Transformation-Data Mapping/Translation	Edge		CE - Consumer	2.1.5.4x	4.2 Updating a PHR							Feature of Edge System	2.3	3.3	4.3
730	1	IBM-212-14	Consumer System-PHR	May	Offer 'translation' services to provide clinical data in easy to read and understandable format and language	Data Transformation-Data Mapping/Translation	Edge		CE - Consumer	2.z.3.14	8.3 PHR Usability and User Preferences							Feature of Edge System	2.3	3.3	4.3
612	1	IBM-205-19	Consumer System-PHR	Shall	Maintain an XDS repository following pre-population	Information Location-Identity/Information Correlation	Edge		CE - Consumer	2.2.2.3x	3.2 Pre-populating a PHR							Refers to a specific standard- the statement should be changed to reference HITSP	2.3	3.4	4.3
613	1	IBM-205-20	Consumer System-PHR	Shall	Publish the appropriate links back to the record locator	Information Location-Identity/Information Correlation	Edge		CE - Consumer	2.2.2.3x	3.2 Pre-populating a PHR	IBM-207-20	IBM-207-20 Consumer System-PHR May Publish the appropriate links back to the record locator							2.3	3.4	4.3
639	1	IBM-207-19	Consumer System-PHR	May	Maintain an XDS repository following pre-population	Information Location-Identity/Information Correlation	Edge		CE - Consumer	2.1.5.2x	4.2 Updating a PHR							Refers to a specific standard- the statement should be changed to reference HITSP	2.3	3.4	4.3
656	1	IBM-207-36	Consumer System-PHR	May	Publish the appropriate links with updated data back to the record locator	Information Location-Identity/Information Correlation	Core	IBM-207-30	Infrastructure	2.z.1.18	4.2 Updating a PHR								2.3	3.4	4.4
	1	IBM-208-03	Consumer System-PHR	May	Publish the appropriate links back to the record locator	Information Location-Identity/Information Correlation	Core		Infrastructure	2.z.2.3	5.1 PHR on the NHIN								2.3	3.4	4.4
712	1	IBM-211-05	Consumer System-PHR	May	Publish the appropriate links with updated data back to the record locator	Information Location-Identity/Information Correlation	Core		Infrastructure	2.z.1.1	7.2 Closing a PHR								2.3	3.4	4.4
397	1	CSC-CE-480	Consumer System-PHR	Shall	Not store location information in the Patient Matching service.	Information Location-Record Location	Edge		CE - Consumer									Architectually specific	2.3	3.4	4.3
595	1	IBM-205-02	Consumer System-PHR	May	Confirm with the consumer that the system will request information from data and network systems	Non-Functional-Accuracy	Edge		CE - Consumer	2.1.4.2x	3.2 Pre-populating a PHR	IBM-207-02	IBM-207-02 Consumer System-PHR May Confirm with the consumer that the system will request information from data and network systems							2.3	3.5	4.3
596	1	IBM-205-03	Consumer System-PHR	May	Receive and validate the query request	Non-Functional-Accuracy	Edge		CE - Consumer	2.1.4.2x	3.2 Pre-populating a PHR	IBM-207-03	IBM-207-03 Consumer System-PHR May Receive and validate the query request							2.3	3.5	4.3
618	1	IBM-205-25	Consumer System-PHR	Shall	Review and validate populated PHR record	Non-Functional-Accuracy	Edge		CE - Consumer	2.1.4.3	3.2 Pre-populating a PHR								2.3	3.5	4.3
645	1	IBM-207-25	Consumer System-PHR	Shall	Review and validate updated PHR record	Non-Functional-Accuracy	Edge		CE - Consumer	2.1.5.3	4.2 Updating a PHR								2.3	3.5	4.3
649	1	IBM-207-29	Consumer System-PHR	May	Restrict how data fields will be annotated/modified.	Non-Functional-Accuracy	Edge		CE - Consumer	2.1.5.4x	4.2 Updating a PHR								2.3	3.5	4.3
650	1	IBM-207-30	Consumer System-PHR	Shall	Receive modified registration and medication history, if appropriate, back from the consumer	Non-Functional-Accuracy	Edge	IBM-207-26; IBM-207-27	CE - Consumer	2.1.5.5	4.2 Updating a PHR								2.3	3.5	4.3
395	1	CSC-CE-400	Consumer System-PHR	Shall	Only be allowed to query the NHIN interface, and be queriable over the NHIN, if it is a full member of a SNO.	Non-Functional-Business Rules	Edge	CSC-SEC-230, CSC-ALL-20, CSC-ALL-30	CE - Consumer										2.3	3.5	4.3
615	1	IBM-205-22	Consumer System-PHR	Shall	Present retrieved data from medication brokers within 5 seconds	Non-Functional-Performance	Edge		CE - Consumer	2.2.2.3x	3.2 Pre-populating a PHR NOTE: All following performance requirements are stated in terms of possible peak loads; determining the baseline for peak loads should become part of the certification process.							Feature - Performance	2.3	3.5	4.3
642	1	IBM-207-22	Consumer System-PHR	Shall	Present retrieved data from medication brokers within 5 seconds	Non-Functional-Performance	Edge		CE - Consumer	2.1.5.3x	4.2 Updating a PHR NOTE: All following performance requirements are stated in terms of possible peak loads; determining the baseline for peak loads should become part of the certification process.							Feature - Performance	2.3	3.5	4.3
658	1	IBM-207-38	Consumer System-PHR	Shall	Receive request from consumer to close PHR account	Non-Functional-Scalability	Edge		CE - Consumer	2.1.6.1	4.2 Updating a PHR								2.3	3.5	4.3
583	1	IBM-201-03	Consumer System-PHR	Shall	Accept first time log-in identification data from consumer	Security-Authentication	Edge		CE - Consumer	2.1.1.1	1.1 Opening a PHR First time access will be guided by PHR vendor selected - information entered could be demographic or a unique identifier provided by sponsoring organization (pin, etc).								2.3	3.6	4.3
585	1	IBM-201-05	Consumer System-PHR	Shall	Prompt consumer to create a unique log-in mechanism after first time validation	Security-Authentication	Edge		CE - Consumer	2.1.1.1x	1.1 Opening a PHR								2.3	3.6	4.3
398	1	CSC-CE-510	Consumer System-PHR	Shall	Authenticate the identity of the person requesting access to personal health information	Security-Authorization	Edge	CSC-SEC-50	CE - Consumer	2.1.2.1, 2.1.3.1, 2.1.4.1, 2.1.5.1, 2.2.1.1, 2.2.2.2	Consumer access to their PHR via the NHIN introduces security vulnerabilities to the network, and would be precluded	IBM-207-40 NGIT-083 CSC-CE-750	IBM-207-40 Consumer System-PHR-- PHR Registration info Shall Authenticate and verify the authorization of the requestor	NGIT-083 Consumer System-PHR Shall Authenticate consumers before accessing their personal health record	CSC-CE-750 Consumer System-PHR Shall Accept queries for PHR data. The queries must contain authenticating and authorizing credentials provided by the consumer.	ACN-03.1 Consumer System-PHR Shall Enable people to access their Personal Health Record.			2.3	3.6	4.3
399	1	CSC-CE-520	Consumer System-PHR	Shall	Enable creation and modification of an access list of persons and entities authorized by the consumer to access their PHR account.	Security-Authorization	Edge	CSC-SEC-200, CSC-ALL-610	CE - Consumer	CE-p.5.s3.A1, 2.1.2.2, 2.2.1.3									2.3	3.6	4.3
591	1	IBM-203-04	Consumer System-PHR	Shall	Maintain an authorized access list to the consumer's PHR	Security-Authorization	Edge	IBM-201-03	CE - Consumer	2.1.2.2x	2.2 Designating third party access	IBM-209-04 CSC-CE-530	IBM-209-04 Consumer System-PHR Shall Maintain a list of authorized users that can directly access the consumer's PHR						2.3	3.6	4.3
671	1	IBM-209-06	Consumer System-PHR	Shall	Authorize (or not) provider's request to access consumer's PHR	Security-Authorization	Edge	IBM-209-04	CE - Consumer	2.3.1.1x	6.1 Provider access to PHR data	NGIT-095 CSC-CE-760	NGIT-095 Consumer System-PHR Shall Authorize request for data	CSC-CE-760 Consumer System-PHR Shall Validate that data requestor is permitted by consumer access list					2.3	3.6	4.3
1068	1	NGIT-084	Consumer System-PHR	May	Enable consumer to define who has access to data within PHR	Security-Authorization	Edge		CE - Consumer	2.1.2.2	Consumer has authorization over access to his/her data.	NGIT-163	NGIT-163 Consumer System-PHR May Enable consumer to mark only selected portions of the PHR as available to external authorized entities						2.3	3.6	4.3
1139	1	NGIT-164	Consumer System-PHR	Shall	Enable consumer to opt in or out of having data in PHR available to authorized entities	Security-Authorization	Edge		CE - Consumer										2.3	3.6	4.3
588	1	IBM-203-01	Consumer System-PHR	Shall	Prompt the consumer to select what third-parties will have access to their PHR	Security-Credentialing	Edge		CE - Consumer	2.2.1.3	2.2 Designating third party access This may be facilitated by use of a provider registry; contingent upon PHR vendor selected.								2.3	3.6	4.3
589	1	IBM-203-02	Consumer System-PHR	May	Provide look-up and reconciliation service for third parties	Security-Credentialing	Edge		CE - Consumer	2.1.2.2x	2.2 Designating third party access								2.3	3.6	4.3
590	1	IBM-203-03	Consumer System-PHR	May	Query against a provider directory provided by the marketplace	Security-Credentialing	Edge		CE - Consumer	2.1.2.2x	2.2 Designating third party access								2.3	3.6	4.3
584	1	IBM-201-04	Consumer System-PHR-- PHR Registration info	Shall	Reconcile consumer provided first time log-in information and authenticate consumer. 1) allow the consumer to proceed or 2) reject consumer	Security-Authentication	Edge		CE - Consumer	2.1.1.1x	1.1 Opening a PHR								2.3	3.6	4.3

ID-ONC	#	ID	Entities	Entity – Property Relation	Property	Functional Categories	Entity Role (i.e., Core or Edge)	Link to other requirements	Principal Context	Context Reference	Comments / Rationale	Closely resembles…	Associated Reference 1	Associated Reference 2	Associated Reference 3	Associated Reference 4	Associated Reference 5	Initial Review Comments	Tentative Entity Breakout Session No.	Tentative Functional Category Breakout Session No.	Tentative Use Case Breakout Session No.
586	1	IBM-202-01	Consumer System-PHR-- PHR Registration info	Shall	Prompt consumer for uniquely identifying information when logging in (not first time)	Security-Authentication	Edge	IBM-201-04	CE - Consumer	2.1.2.1	2.1 Logging into a PHR								2.3	3.6	4.3
592	1	IBM-204-01	Consumer System-PHR-- PHR Registration info	Shall	Prompt consumer for uniquely identifying information during log-in (not first time)	Security-Authentication	Edge	IBM-201-04	CE - Consumer	2.1.3.1	3.1 Logging into a PHR	IBM-206-01 IBM-210-01	IBM-206-01 Consumer System-PHR-- PHR Registration info Shall Prompt consumer for uniquely identifying information during log-in (not first time)	IBM-210-01 Consumer System-PHR-- PHR Registration info Shall Prompt consumer for uniquely identifying information during log-in (not first time)					2.3	3.6	4.3
593	1	IBM-204-02	Consumer System-PHR-- PHR Registration info	Shall	Establish consumer's identity and authorize based on information provided	Security-Authentication	Edge		CE - Consumer	2.1.3.1	3.1 Logging into a PHR	IBM-202-02 IBM-206-02 IBM-210-02 NGIT-101	IBM-202-02 Consumer System-PHR-- PHR Registration info Shall Establish consumer's identity and authorize based on information provided	IBM-206-02 Consumer System-PHR-- PHR Registration info Shall Establish consumer's identity and authorize based on information provided	IBM-210-02 Consumer System-PHR-- PHR Registration info Shall Establish consumer's identity and authorize based on information provided	NGIT-101 Consumer System-PHR May Support direct access to registration and medication data for viewing by external user interfaces			2.3	3.6	4.3
582	1	IBM-201-02	Consumer System-PHR-- PHR Registration info	Shall	Prompt consumer for uniquely identifying information to allow for first time access to PHR	Security-Authorization	Edge		CE - Consumer	2.2.1.2	1.1 Opening a PHR								2.3	3.6	4.3
135	1	ACN-06.1.10	Data Analysis and Secondary Use Systems	Shall	Generate a relinking identifier for patients included in the anonymized data.	Data Content-Data Usage	Edge	N/A	Bio	3	The NHIN system must be capable of relinking specific patient identification information with an identifier for patients included in reports that do not include specific patient identification information.								2.4		4.2
141	1	ACN-06.1.4	Data Analysis and Secondary Use Systems	Shall	Aggregate anonymized health data from participating edge systems.	Data Content-Data Usage	Core	N/A	Bio	Pre-condition	Health data from participating edge systems should be combined without including specific patient identification information.	ACN-06.1.5	ACN-06.1.5 Data Analysis and Secondary Use Systems-Public Health Shall Generate aggregated anonymized data for federal public health agencies.						2.4		4.2
140	1	ACN-06.1.3	Data Analysis and Secondary Use Systems	Shall	Receive anonymized health data from participating edge systems.	Data Transaction-(Push)	Core	N/A	Bio	Pre-condition	Health data not including specific patient identification information should be received from participating edge systems.								2.4	3.2	4.2
118	1	ACN-05.1.1.1	Data Analysis and Secondary Use Systems	Shall	Make public health information available within 24 hours of creation.	Non-Functional-Performance	Core	N/A	Infrastructure	No Reference	Edge systems must make information available to public health users within 24 hours of creation.	IBM-102-11 IBM-103-11 ACN-06.1.12 NGIT-159 CSC-BIO-560	IBM-102-11 CDO Shall Send biosurveillance data within 24 hours of the event	IBM-103-11 CDO Shall Send biosurveillance data within 24 hours of the event	ACN-06.1.12 Data Analysis and Secondary Use Systems-Public Health Shall Transmit aggregated anonymized data to public health systems within 24 hours of generation.	NGIT-159 CDO Shall Transmit data to support public health biosurveillance	CSC-BIO-560 CDO May Send results (and requested meta data) to PH Agencie(s)		2.4	3.5	4.4
568	1	IBM-107-02	Data Analysis and Secondary Use Systems-Public Health	May	Provide and support template driven composition of biosurveillance event response "broadcast" messages to support event response	Data Content	Edge		Biosurveillance	1.z.3.2	7.1 PH Community - Event Response - Secure Broadcast Messaging								2.4	3.1	4.2
569	1	IBM-107-03	Data Analysis and Secondary Use Systems-Public Health	Should	Allow sender to specify type and urgency of biosurveillance 'broadcast' messages to support event response	Data Content	Edge		Biosurveillance	1.z.3.3	7.1 PH Community - Event Response - Secure Broadcast Messaging Different types of biosurveillance event responders will need different types of information during event management (e.g. treatment recommendations, medical/medication supply information, clinical resource information, etc.). Public health may want to target messages to type of responder.								2.4	3.1	4.2
548	1	IBM-104-06	Data Analysis and Secondary Use Systems-Public Health	Shall	Send acknowledgment to senders that integrity, authenticity and completeness of results are acceptable.	Data Content-Data Quality/Data Integrity	Edge		Biosurveillance	1.3.2.3	4.2 PH Agencies - Receive, Check, Store, Audit Log Requested Data ONC Guidance: The NHIN contractors should architect and demonstrate the network capabilities necessary to support these functions. The NHIN contractors are not expected to change policies, workflows or procedures at involved public health agencies.	NGIT-079	NGIT-079 Data Analysis and Secondary Use Systems-Public Health Shall Acknowledge receipt of data						2.4	3.1	4.2
133	1	ACN-06.1	Data Analysis and Secondary Use Systems-Public Health	Shall	Aggregate anonymized patient health data for biosurveillance, drug and medical product safety monitoring, and use by regulators to support the review and approval of new drugs and device applications.	Data Content-Data Usage	Core	N/A	Bio	Pre-condition	Patient health data used for biosurveillance should be combined without including specific patient identification information. Please note that in addition to biosurveillance, this data can support clinical research, drug safety monitoring, and other health care processes.								2.4		4.2
136	1	ACN-06.1.11	Data Analysis and Secondary Use Systems-Public Health	Shall	Allow authorized public health users to access a patient's information using the relinking identifier.	Data Content-Data Usage	Edge	N/A	Bio	3.1	Authorized public health users are able to access specific patient identification information with the relinking identifier.								2.4		4.2
139	1	ACN-06.1.2	Data Analysis and Secondary Use Systems-Public Health	Shall	Generate anonymized health data.	Data Content-Data Usage	Edge	N/A	Bio	Pre-condition	It is necessary to generate health data reports that do not include specific patient identification information.								2.4		4.2
142	1	ACN-06.1.5	Data Analysis and Secondary Use Systems-Public Health	Shall	Generate aggregated anonymized data for federal public health agencies.	Data Content-Data Usage	Core	N/A	Bio	Pre-condition	It is necessary to generate health data reports for federal public health agencies without including specific patient identification information.	ACN-06.1.7 ACN-06.1.6	ACN-06.1.7 Data Analysis and Secondary Use Systems-Public Health Shall Generate aggregated anonymized data for local public health agencies.	ACN-06.1.6 Data Analysis and Secondary Use Systems-Public Health Shall Generate aggregated anonymized data for state public health agencies.					2.4		4.2
143	1	ACN-06.1.6	Data Analysis and Secondary Use Systems-Public Health	Shall	Generate aggregated anonymized data for state public health agencies.	Data Content-Data Usage	Core	N/A	Bio	Pre-condition	It is necessary to generate health data reports for state public health agencies without including specific patient identification information.	ACN-06.1.5 ACN-06.1.7	ACN-06.1.5 Data Analysis and Secondary Use Systems-Public Health Shall Generate aggregated anonymized data for federal public health agencies.	ACN-06.1.7 Data Analysis and Secondary Use Systems-Public Health Shall Generate aggregated anonymized data for local public health agencies.					2.4		4.2
144	1	ACN-06.1.7	Data Analysis and Secondary Use Systems-Public Health	Shall	Generate aggregated anonymized data for local public health agencies.	Data Content-Data Usage	Edge	N/A	Bio	Pre-condition	It is necessary to generate health data reports for local public health agencies without including specific patient identification information.	ACN-06.1.5 ACN-06.1.6	ACN-06.1.5 Data Analysis and Secondary Use Systems-Public Health Shall Generate aggregated anonymized data for federal public health agencies.	ACN-06.1.6 Data Analysis and Secondary Use Systems-Public Health Shall Generate aggregated anonymized data for state public health agencies.					2.4		4.2
145	1	ACN-06.1.8	Data Analysis and Secondary Use Systems-Public Health	Shall	Generate alerts/notifications to public health users based on public health algorithms.	Data Content-Data Usage	Core	N/A	Bio	No Reference	It is necessary to generate positive/negative alerts/notifications based on public health algorithms that will be supplied by ONC.	ACN-06.1.9	ACN-06.1.9 Data Analysis and Secondary Use Systems-Public Health Shall Generate alerts/notifications to public health users based on public health algorithms.						2.4		4.2
146	1	ACN-06.1.9	Data Analysis and Secondary Use Systems-Public Health	Shall	Generate alerts/notifications to public health users based on public health algorithms.	Data Content-Data Usage	Edge	N/A	Bio	No Reference	It is necessary to generate positive/negative alerts/notifications based on public health algorithms that will be supplied by ONC.	ACN-06.1.8	ACN-06.1.8 Data Analysis and Secondary Use Systems-Public Health Shall Generate alerts/notifications to public health users based on public health algorithms.						2.4		4.2
147	1	ACN-06.2	Data Analysis and Secondary Use Systems-Public Health	Shall	Allow public health users to access aggregated anonymized health data.	Data Content-Data Usage	Core	N/A	Bio	No Reference	Public health users should have access to combined health data that does not include specific patient identification information.								2.4		4.2
381	1	CSC-BIO-400	Data Analysis and Secondary Use Systems-Public Health	Should	Provide measurable utility to improve surveillance	Data Content-Data Usage	Edge	BIO-010	Bio	p10 s6									2.4		4.2
392	1	CSC-BIO-590	Data Analysis and Secondary Use Systems-Public Health	Shall	Receive, acknowledge receipt, validate format, and log BIOsurveillance data	Data Content-Data Usage	Edge	CSC-ALL-800	Bio	1.3.2.1 1.3.2.2 1.3.2.3 1.3.2.4, p11 s3		IBM-104-05 NGIT-078 NGIT-077 IBM-104-03	IBM-104-05 Data Analysis and Secondary Use Systems-Public Health Shall Verify integrity of the transmission contents from the identified source including appropriate anonymized patient information per agreed to standards and policies	NGIT-077 Data Analysis and Secondary Use Systems-Public Health Shall Verify integrity of transmission content	NGIT-078 Data Analysis and Secondary Use Systems-Public Health Shall Receive unsolicited transmission of biosurveillance data	IBM-104-03 Data Analysis and Secondary Use Systems-Public Health Shall Receive anonymized data with associated randomized data links from all authorized data sources			2.4		4.2
566	1	IBM-106-11	Data Analysis and Secondary Use Systems-Public Health	Shall	Perform additional data mining to monitor a previously identified event	Data Content-Data Usage	Edge		Biosurveillance	1.2.2.11	6.6 PH Community - Monitor Detected Event - Data Mining								2.4		4.2
549	1	IBM-104-07	Data Analysis and Secondary Use Systems-Public Health	Should	Store lab test results received from all participating Care Delivery Organizations	Data Storage-Persistent Data Storage	Edge		Biosurveillance	1.3.2.3X	4.2 PH Agencies - Receive, Check, Store, Audit Log Requested Data								2.4		4.2
552	1	IBM-105-01	Data Analysis and Secondary Use Systems-Public Health	May	Be able to request re-identification of specified patient data to support event detection	Data Transaction-(Pull)	Edge		Biosurveillance	1.z.1.1	5.1 PH Agency - Authorized Request to Re-identify Patient Data								2.4	3.2	4.2
555	1	IBM-105-04	Data Analysis and Secondary Use Systems-Public Health	May	Be able to receive re-identified data for specific patients upon authorized request from CDOs to support event detection	Data Transaction-(Pull)	Edge		Biosurveillance	1.z.1.4	5.1 PH Agency - Authorized Request to Re-identify Patient Data								2.4	3.2	4.2
137	1	ACN-06.1.12	Data Analysis and Secondary Use Systems-Public Health	Shall	Transmit aggregated anonymized data to public health systems within 24 hours of generation.	Data Transaction-(Push)	Core	N/A	Bio	2 Description	Transmission of combined health data records not including specific patient identification information should be sent to public health systems within 24 hours in order to keep data recent in case of a public health issue.	IBM-102-11 IBM-103-11 ACN-05.1.1.1 NGIT-159 CSC-BIO-560	IBM-102-11 CDO Shall Send biosurveillance data within 24 hours of the event	IBM-103-11 CDO Shall Send biosurveillance data within 24 hours of the event	ACN-05.1.1.1 Data Analysis and Secondary Use Systems Shall Make public health information available within 24 hours of creation.	NGIT-159 CDO Shall Transmit data to support public health biosurveillance	CSC-BIO-560 CDO May Send results (and requested meta data) to PH Agencie(s)		2.4	3.2	4.2

ID-ONC	#	ID	Entities	Entity – Property Relation	Property	Functional Categories	Entity Role (i.e., Core or Edge)	Link to other requirements	Principal Context	Context Reference	Comments / Rationale	Closely resembles…	Associated Reference 1	Associated Reference 2	Associated Reference 3	Associated Reference 4	Associated Reference 5	Initial Review Comments	Tentative Entity Breakout Session No.	Tentative Functional Category Breakout Session No.	Tentative Use Case Breakout Session No.
138	1	ACN-06.1.13	Data Analysis and Secondary Use Systems-Public Health	Shall	Transmit aggregated anonymized data to public health systems in formats defined by the public health agencies.	Data Transaction-(Push)	Core	N/A	Bio	2 Description	Transmission of combined health data records not including specific patient identification information should be in formats predefined by public health agencies.								2.4	3.2	4.2
544	1	IBM-104-02	Data Analysis and Secondary Use Systems-Public Health	Shall	Send biosurveillance participating Care Delivery Organizations a list of essential data that must be transmitted to Public Health Agencies. The notification will include the trigger to send the data, the timeframe for sending, and data to be sent.	Data Transaction-(Push)	Edge		Biosurveillance	1.3.1.1	4.1 PH Agencies - Provide Definition of Requested Data ONC Guidance: for the prototype, this notification may be sent via various modes including: email and fax. PH Local, Regional or State Biosurveillance Data Analysis Center Public Health analysis algorithms and alerting are not required as part of the prototype architecture, the demonstration or the documentation provided to ONC at project conclusion. Architectures should not preclude this functionality in the future (e.g., multi-directional communications rather than all data flowing in one direction to Public Health agencies), but do not have to implement it at this time.	NGIT-076 CSC-BIO 580 CSC-BIO-550 IBM-106-01	NGIT-076 Data Analysis and Secondary Use Systems-Public Health Shall Publish listing of required biosurveillance data to support filter	CSC-BIO-560 CDO May Send results (and requested meta data) to PH Agencie(s)	CSC-BIO-550 Data Analysis and Secondary Use Systems Shall Provide information to CDOs on which PH Agencies require notification of specific data	IBM-106-01Data Analysis and Secondary Use Systems-Public Health Shall Send biosurveillance participating Care Delivery Organizations additional or updated specification of essential data that must be transmitted to PH Agencies to monitor a previously detected event			2.4	3.2	4.2
557	1	IBM-106-02	Data Analysis and Secondary Use Systems-Public Health	Shall	Update algorithms to track the confirmed number, location and rate of spread to monitor a previously detected event	Data Transaction-(Push)	Edge		Biosurveillance	1.z.2.2	6.1 PH Community - Monitor Detected Event - Case Tracking Data								2.4	3.2	4.2
558	1	IBM-106-03	Data Analysis and Secondary Use Systems-Public Health	Shall	Communicate directly to care givers via secure NHIN messaging to provide updates and instructions to monitor a previously detected event	Data Transaction-(Push)	Core		Biosurveillance	1.z.2.3	6.2 PH Community - Monitor Detected Event - Secure Messaging								2.4	3.2	4.2
560	1	IBM-106-05	Data Analysis and Secondary Use Systems-Public Health	Shall	Communicate approved PH updates and alerts to the public media via secure NHIN messaging to monitor a previously detected event	Data Transaction-(Push)	Edge		Biosurveillance	1.z.2.5	6.3 PH Community - Monitor Detected Event - Updates and Alerts The system should serve as a standard platform for communicating alerts and updates to the public so Media outlets will need to have restricted access to the NHIN messaging system.								2.4	3.2	4.2
561	1	IBM-106-06	Data Analysis and Secondary Use Systems-Public Health	Shall	Communicate approved PH updates and alerts to neighboring communities via secure NHIN messaging to monitor a previously detected event	Data Transaction-(Push)	Edge		Biosurveillance	1.z.2.6	6.3 PH Community - Monitor Detected Event - Updates and Alerts								2.4	3.2	4.2
567	1	IBM-107-01	Data Analysis and Secondary Use Systems-Public Health	Shall	Publish biosurveillance event response 'broadcast" messages to authorized biosurveillance responders who have subscribed to receive the broadcast messages to support event response	Data Transaction-(Push)	Edge		Biosurveillance	1.z.3.1	7.1 PH Community - Event Response - Secure Broadcast Messaging Biosurveillance event response 'broadcast" messages do not contain patient specific data. These messages provide general information about managing an event.								2.4	3.2	4.2
577	1	IBM-107-11	Data Analysis and Secondary Use Systems-Public Health	May	Provide capability for secure, instant text or audio messaging or video conferencing between Public Health and authorized Responder to support event response	Data Transaction-(Push)	Edge		Biosurveillance	1.z.3.11	7.2 PH Community - Event Response - Secure Interactive Messaging								2.4	3.2	4.2
579	1	IBM-107-13	Data Analysis and Secondary Use Systems-Public Health	May	Send patient-specific biosurveillance event response information messages to patient's provider according to authorized provider's specification (secure email, web application, EHR, etc) to support event response	Data Transaction-(Push)	Edge		Biosurveillance	1.z.4.1	7.3 PH Community - Event Response - Patient Centric	NGIT-077	NGIT-077 Data Analysis and Secondary Use Systems-Public Health Shall Receive unsolicited transmission of biosurveillance data						2.4	3.2	4.2
550	1	IBM-104-08	Data Analysis and Secondary Use Systems-Public Health	Shall	Log receipt of lab test results	Data Transaction-Audit & Logging	Edge		Biosurveillance	1.3.2.4	4.2 PH Agencies - Receive, Check, Store, Audit Log Requested Data								2.4	3.2	4.2
551	1	IBM-104-09	Data Analysis and Secondary Use Systems-Public Health	Shall	Log storage of lab test results	Data Transaction-Audit & Logging	Edge		Biosurveillance	1.3.2.4	4.2 PH Agencies - Receive, Check, Store, Audit Log Requested Data								2.4	3.2	4.2
562	1	IBM-106-07	Data Analysis and Secondary Use Systems-Public Health	Shall	Send requests to inventory status of medical supplies to monitor a previously detected event	Data Transformation-Data Filtering	Edge		Biosurveillance	1.z.2.7	6.4 PH Community - Monitor Detected Event - Monitor Supplies								2.4	3.3	4.2
368	1	CSC-BIO-030	Data Analysis and Secondary Use Systems-Public Health	Should	Receive sufficient and accurate information enabling them to effectively respond to and manage public health events--for early detection, situational awareness, rapid response, automatic maximum data sharing	Information Location-Identity/Information Correlation	Edge		Bio	p02, p04 s2, p05 s3, p10 s6, p09 s5									2.4	3.4	4.2
546	1	IBM-104-04	Data Analysis and Secondary Use Systems-Public Health	Shall	Authenticate sender of public health data	Security-Authentication	Edge	IBM-104-1	Biosurveillance	1.3.2.2X	4.2 PH Agencies - Receive, Check, Store, Audit Log Requested Data								2.4	3.6	4.2
543	1	IBM-104-01	Data Analysis and Secondary Use Systems-Public Health	Shall	Register CDO as authorized provider of biosurveillance data	Security-Authorization	Edge	IBM-102-1 and IBM 103-1	Biosurveillance	1.3.2.2X	4.2 PH Agencies - Receive, Check, Store, Audit Log Requested Data								2.4	3.6	4.2
889	1	IBM-308-13	External User interfaces	Shall	Adhere to approved content standards as provided by HITSP when sending request for lab result data to repository	Data Content	Edge		EHR - Lab	3.2.1.1ax1	2.2 Clinician Requests Historical Results from Data Repositories								1.3	3.1	4.1
891	1	IBM-308-15	External User interfaces	Should	Include name of the requesting clinician; the HIPAA designated National Provider ID and name of the clinician's affiliated organization, and identifying information for the requesting marketplace as part of the the data request transmission when sending request for lab result data to repository	Data Content	Edge		EHR - Lab	3.2.1.1ax2	2.2 Clinician Requests Historical Results from Data Repositories								1.3	3.1	4.1
814	1	IBM-306-06	External User interfaces	Shall	Validate integrity and completeness of new lab result event availability notification message	Data Content-Data Quality/Data Integrity	Edge		EHR - Lab	3.2.2.1x	1.6 Clinician Notified of New Lab Results								1.3	3.1	4.1
816	1	IBM-306-08	External User interfaces	Shall	Send acknowledgement message to record locator for successful transmission of new lab result event availability notification message	Data Content-Data Quality/Data Integrity	Edge		EHR - Lab	3.2.2.1x	1.6 Clinician Notified of New Lab Results								1.3	3.1	4.1
818	1	IBM-306-10	External User interfaces	Shall	Send error messages to locator service if content integrity or completeness not validated for transmission of notifications	Data Content-Data Quality/Data Integrity	Edge		EHR - Lab	3.2.2.1x1	1.6 Clinician Notified of New Lab Results								1.3	3.1	4.1
926	1	IBM-312-02	External User interfaces	Shall	Verify correct patient identity and correctness of lab results and error correct if necessary	Data Content-Data Quality/Data Integrity	Edge		EHR - Lab	3.2.4.4	2.6 Clinician Receives Historical Results in Web Application								1.3	3.1	4.1
927	1	IBM-312-03	External User interfaces	Shall	Send acknowledge receipt of lab results in web application to data repository or data manager system, depending upon sending entity	Data Content-Data Quality/Data Integrity	Edge		EHR - Lab	3.2.4.5	2.6 Clinician Receives Historical Results in Web Application								1.3	3.1	4.1
74	1	ACN-03	External User interfaces	Shall	Enable users to access healthcare data.	Data Content-Data Usage	Core	N/A	Infrastructure	No Reference	Users should have access to their healthcare data if consent has been given.								1.3	3.1	4.4
106	1	ACN-04.16	External User interfaces	Shall	Present data to users in a usable, readable format. .	Data Content-Data Usage	Edge	N/A	Infrastructure	No Reference	The data should be presented to the end user in a format that the user can easily read and understand.								1.3	3.1	4.4
931	1	IBM-312-07	External User interfaces	Shall	Save lab results in local system	Data Storage-Persistent Data Storage	Edge		EHR - Lab	3.2.4.3b	2.6 Clinician Receives Historical Results in Web Application								1.3	3.3	4.1
29	1	ACN-02.2	External User interfaces	Shall	Enable providers to request patient data from participating edge systems in the NHIN.	Data Transaction-(Pull)	Core	N/A	EHR - Lab	No Reference	Providers can request patient data from other systems connected to the NHIN, if the patient has granted consent.								1.3	3.2	4.1
43	1	ACN-02.3.3	External User interfaces	Shall	Initiate a request for the identified edge system(s) to send the patient data to the requesting edge system.	Data Transaction-(Pull)	Core	N/A	CE, EHR	3.2.3	After the patient data has been located, the request must be forwarded on to the system containing the needed information.								1.3	3.2	4.4
822	1	IBM-307-02	External User interfaces	Shall	Query locator system for laboratory (historical) test results location	Data Transaction-(Pull)	Edge		EHR - Lab	3.2.4.0x	2.1 Clinician Requests Historical Results Location								1.3	3.2	4.1
871	1	IBM-307-51	External User interfaces	Shall	Receive the data repository location(s) where the test results are stored	Data Transaction-(Pull)	Edge		EHR - Lab	3.2.3.4	2.1 Clinician Requests Historical Results Location								1.3	3.2	4.1
876	1	IBM-307-56	External User interfaces	Shall	Browse and select the relevant test results location information and select locations from which to request data	Data Transaction-(Pull)	Edge		EHR - Lab	3.2.3.3ax1	2.1 Clinician Requests Historical Results Location								1.3	3.2	4.1
878	1	IBM-308-02	External User interfaces	Shall	Send request for historical lab test result content directly to data repository (local or remote) from EHR or web application	Data Transaction-(Pull)	Edge		EHR - Lab	3.2.1.1a	2.2 Clinician Requests Historical Results from Data Repositories								1.3	3.2	4.1
880	1	IBM-308-04	External User interfaces	Should	Submit request for lab test results through a data stager	Data Transaction-(Pull)	Edge		EHR - Lab	3.2.1.1az	2.2 Clinician Requests Historical Results from Data Repositories								1.3	3.2	4.1
882	1	IBM-308-06	External User interfaces	Shall	Conform to approved, vocabulary, structure, privacy, security and messaging standards as provided by HITSP when transmitting patient data.	Data Transaction-(Pull)	Edge		EHR - Lab	3.2.1.1ax3	2.2 Clinician Requests Historical Results from Data Repositories								1.3	3.2	4.1
925	1	IBM-312-01	External User interfaces	Shall	Receive laboratory test results in web application from data repository or data stager	Data Transaction-(Pull)	Edge	IBM-310-01; IBM-309-10	EHR - Lab	3.2.4.3	2.6 Clinician Receives Historical Results in Web Application								1.3	3.2	4.1

ID-ONC	#	ID	Entities	Entity – Property Relation	Property	Functional Categories	Entity Role (i.e., Core or Edge)	Link to other requirements	Principal Context	Context Reference	Comments / Rationale	Closely resembles…	Associated Reference 1	Associated Reference 2	Associated Reference 3	Associated Reference 4	Associated Reference 5	Initial Review Comments	Tentative Entity Breakout Session No.	Tentative Functional Category Breakout Session No.	Tentative Use Case Breakout Session No.
1109	1	NGIT-130	External User interfaces	Shall	Transmit well formed query request for lab result data	Data Transaction-(Pull)	Edge		EHR - Lab	3.2.3.0	Request may be generated by direct user interface and not have underlying support of EMR system to validate patient and user data. Completion of request will require authentication of user as a valid NHIN participant. Valid query request requires compliance with patient identity, test (order) identity, and user identity requirements as specified by HITSP standards and implementation guides.								1.3	3.2	4.1
1106	1	NGIT-127	External User interfaces	May	Receive notification of new test results	Data Transaction-(Push)	Edge		EHR - Lab	3.2.2.1	Notifications do not need to be technically complex.	IBM-306-02	IBM-306-02 External User Interfaces Shall Receive notification from locator service that new lab test results events are available						1.3	3.2	4.1
873	1	IBM-307-53	External User interfaces	Shall	Log location request interaction with locator service	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.2.3.5	2.1 Clinician Requests Historical Results Location								1.3	3.2	4.1
928	1	IBM-312-04	External User interfaces	Shall	Log interaction with data repository or data stager related to receiving results	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.2.4.6	2.6 Clinician Receives Historical Results in Web Application								1.3	3.2	4.1
988	1	IBM-319-15	External User interfaces	Shall	Create audit entry for each transaction	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.2.x.1	3.7 Maintain and Access Audit Log								1.3	3.2	4.1
989	1	IBM-319-16	External User interfaces	Shall	Include audit content as recommended by HITSP standards or as determined by the marketplace if no standards are available	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.2.x.2	3.7 Maintain and Access Audit Log								1.3	3.2	4.1
990	1	IBM-319-17	External User interfaces	Shall	Format audit content as recommended by HITSP standards or as determined by the marketplace if no standards are available	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.2.x.3	3.7 Maintain and Access Audit Log								1.3	3.2	4.1
991	1	IBM-319-18	External User interfaces	Shall	Not allow edits to audit entries	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.2.x.4	3.7 Maintain and Access Audit Log								1.3	3.2	4.1
992	1	IBM-319-19	External User interfaces	Shall	Store audit entry for amount of time determined by law, accrediting agencies, marketplace and entity	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.2.x.5	3.7 Maintain and Access Audit Log								1.3	3.2	4.1
993	1	IBM-319-20	External User interfaces	Shall	Provide capability to print audit trail	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.2.x.6	3.7 Maintain and Access Audit Log								1.3	3.2	4.1
994	1	IBM-319-21	External User interfaces	Shall	Display audit trail only to those authorized to view the audit trail	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.2.x.7	3.7 Maintain and Access Audit Log								1.3	3.2	4.1
995	1	IBM-319-22	External User interfaces	Shall	Create audit entry for each transaction	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.1.x.1	3.7 Maintain and Access Audit Log								1.3	3.2	4.1
996	1	IBM-319-23	External User interfaces	Shall	Include audit content as recommended by HITSP standards or as determined by the marketplace if no standards are available	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.1.x.2	3.7 Maintain and Access Audit Log								1.3	3.2	4.1
997	1	IBM-319-24	External User interfaces	Shall	Format audit content as recommended by HITSP standards or as determined by the marketplace if no standards are available	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.1.x.3	3.7 Maintain and Access Audit Log								1.3	3.2	4.1
998	1	IBM-319-25	External User interfaces	Shall	Not allow edits to audit entries	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.1.x.4	3.7 Maintain and Access Audit Log								1.3	3.2	4.1
999	1	IBM-319-26	External User interfaces	Shall	Store audit entry for amount of time determined by law, accrediting agencies, marketplace and entity	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.1.x.5	3.7 Maintain and Access Audit Log								1.3	3.2	4.1
1000	1	IBM-319-27	External User interfaces	Shall	Provide capability to print audit trail	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.1.x.6	3.7 Maintain and Access Audit Log								1.3	3.2	4.1
1001	1	IBM-319-28	External User interfaces	Shall	Displays audit trail only to those authorized to view the audit trail	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.1.x.7	3.7 Maintain and Access Audit Log								1.3	3.2	4.1
1023	1	IBM-320-01	External User interfaces	Shall	Provide capability for easy retrieval of audit trail by patient or proxy	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.1.y.1	3.8 Patient Accesses Audit Log								1.3	3.2	4.1
1024	1	IBM-320-02	External User interfaces	Shall	Present audit trail in manner understandable to patient or proxy (as determined by law, accrediting agencies, and marketplace)	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.1.y.2	3.8 Patient Accesses Audit Log								1.3	3.2	4.1
1025	1	IBM-320-03	External User interfaces	Shall	Provide capability for a patient or proxy to determine organizations that have shared their information	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.1.y.3	3.8 Patient Accesses Audit Log								1.3	3.2	4.1
1026	1	IBM-320-04	External User interfaces	Shall	Provide capability for patient or proxy to determine organizations and individuals within organizations that have received their information as well as those who have requested to receive their information but were denied	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.1.y.4	3.8 Patient Accesses Audit Log								1.3	3.2	4.1
47	1	ACN-02.3.7	External User interfaces	Shall	Notify requesting user if data exists in an identified edge system but has not been received in a timely period.	Data Transaction-Data Access and Update	Edge	N/A	CE, EHR	3.2.4	Edge systems must notify their users if data is available for a patient, but is not available because the source system has not yet responded. This may prompt the user to follow up via non-NHIN methods.								1.3	3.2	4.4
366	1	CSC-ALL-990	External User interfaces	May	Provide a web interface if an EMR system is not available to perform NHIN queries.	Data Transaction-Data Access and Update	Edge		Infrastructure		This user interface does not necessarily have to be web based								1.3	3.2	4.4
450	1	CSC-EHR-510	External User interfaces	May	Provide web-based or other application interfaces to process lab results, if an EMR system with the necessary capabilities is not available.	Data Transaction-Data Access and Update	Edge		EHR - Lab	3.2.4.0, 3.2.4.1, 3.2.4.2, 3.2.4.3, 3.2.4.3a,b, 3.2.4.4, 3.2.4.5									1.3	3.2	4.1
851	1	IBM-307-31	External User interfaces	Shall	Provide ability for clinician to request all available data (from local and remote communities) for specified patient	Data Transformation-Data Filtering	Edge		EHR - Lab	3.2.3.3a	2.1 Clinician Requests Historical Results Location								1.3	3.3	4.1
853	1	IBM-307-33	External User interfaces	Should	Provide clinician ability to query for results based on one or multiple criteria for a specified patient	Data Transformation-Data Filtering	Edge		EHR - Lab	3.2.3.3ax2	2.1 Clinician Requests Historical Results Location								1.3	3.3	4.1
855	1	IBM-307-35	External User interfaces	Should	Provide clinician ability to query for lab results based on a specified date range for a specified patient	Data Transformation-Data Filtering	Edge		EHR - Lab	3.2.3.3ax3	2.1 Clinician Requests Historical Results Location								1.3	3.3	4.1
857	1	IBM-307-37	External User interfaces	Should	Provide clinician ability to query for lab results based on one or more types of lab data (chemistry, hematology, pathology, etc) for a specified patient	Data Transformation-Data Filtering	Edge		EHR - Lab	3.2.3.3ax4	2.1 Clinician Requests Historical Results Location								1.3	3.3	4.1
859	1	IBM-307-39	External User interfaces	May	Provide clinician ability to query for lab results based on one or more specified lab tests for a specified patient	Data Transformation-Data Filtering	Edge		EHR - Lab	3.2.3.3ax5	2.1 Clinician Requests Historical Results Location								1.3	3.3	4.1
861	1	IBM-307-41	External User interfaces	May	Provide clinician ability to query for lab results based on one, more or all local or remote marketplaces for a specified patient	Data Transformation-Data Filtering	Edge		EHR - Lab	3.2.3.3ax6	2.1 Clinician Requests Historical Results Location								1.3	3.3	4.1
863	1	IBM-307-43	External User interfaces	Shall	Provide clinician ability to request for specific lab test results based on order number or other unique identification	Data Transformation-Data Filtering	Edge		EHR - Lab	3.2.3.3	2.1 Clinician Requests Historical Results Location								1.3	3.3	4.1
972	1	IBM-318-01	External User interfaces	Shall	Allow clinician to subscribe to specified or all available future clinical events data for specified patient (vs. flag in registry)	Data Transformation-Data Filtering	Core		EHR - Lab	3.2.y.1	3.6 Subscribe to Future Clinical Events								1.3	3.3	4.1
973	1	IBM-318-02	External User interfaces	Shall	Allow clinician to un-subscribe to future clinical events data for specified patient	Data Transformation-Data Filtering	Core		EHR - Lab	3.2.y.2	3.6 Subscribe to Future Clinical Events								1.3	3.3	4.1
2	1	ACN-01.1	External User interfaces	Shall	Allow patients access to their personal health record (PHR).	Data Transformation-Data Rendering	Edge	N/A	CE - Consumer	2.1.4	N/A								1.3	3.3	4.3
9	1	ACN-01.2	External User interfaces	Shall	Allow providers access to view information on specific patients.	Data Transformation-Data Rendering	Edge	N/A	CE, EHR	2.3.1, 3.2.1	N/A								1.3	3.3	4.1
10	1	ACN-01.3	External User interfaces	Shall	Allow patients and providers to view medication history.	Data Transformation-Data Rendering	Edge	N/A	CE, EHR	2.1.4, 2.3.1, 3.1.1	N/A								1.3	3.3	4.1
11	1	ACN-01.4	External User interfaces	Shall	Allow patients and providers to view allergy history.	Data Transformation-Data Rendering	Edge	N/A	CE, EHR	2.14, 2.3.1, 3.1.1	N/A								1.3	3.3	4.1
12	1	ACN-01.5	External User interfaces	Shall	Allow patients and providers to view and edit their demographic information.	Data Transformation-Data Rendering	Edge	N/A	CE, EHR	2.1.4, 2.1.5, 3.1.1, 3.1.2, 2.3.1	N/A								1.3	3.3	4.1
13	1	ACN-01.6	External User interfaces	Shall	Allow providers to view laboratory result and order information.	Data Transformation-Data Rendering	Edge	N/A	EHR - Lab	3.2.1	N/A	IBM-312-05	IBM-312-05 External User Interfaces Shall Display laboratory test results in web application						1.3	3.3	4.1
14	1	ACN-01.7	External User interfaces	Shall	Allow providers to view radiology reports.	Data Transformation-Data Rendering	Edge	N/A	EHR - Lab	3.2.1	N/A								1.3	3.3	4.1
15	1	ACN-01.8	External User interfaces	Shall	Allow providers to view medical images and other imaged materials.	Data Transformation-Data Rendering	Edge	N/A	EHR - Lab	No Reference	N/A								1.3	3.3	4.1
820	1	IBM-306-12	External User interfaces	Shall	Display notification of new lab result event. The display is easy to understand and the displayed content is determined by the marketplace.	Data Transformation-Data Rendering	Edge		EHR - Lab	3.2.2.1x2	1.6 Clinician Notified of New Lab Results								1.3	3.3	4.1
930	1	IBM-312-06	External User interfaces	Shall	Print lab results from web application	Data Transformation-Data Rendering	Edge		EHR - Lab	3.2.4.3a	2.6 Clinician Receives Historical Results in Web Application								1.3	3.3	4.1
967	1	IBM-317-06	External User interfaces	Shall	Support multiple languages	Data Transformation-Data Rendering	Core		EHR - Lab	3.z.1.1	3.5. UI Accommodates Multiple Languages and Handicapped								1.3	3.3	4.1
968	1	IBM-317-07	External User interfaces	Shall	Display content in language designated by user	Data Transformation-Data Rendering	Core		EHR - Lab	3.z.1.2	3.5. UI Accommodates Multiple Languages and Handicapped								1.3	3.3	4.1
969	1	IBM-317-08	External User interfaces	Shall	Support data entry in language designated by user	Data Transformation-Data Rendering	Core		EHR - Lab	3.z.1.3	3.5. UI Accommodates Multiple Languages and Handicapped								1.3	3.3	4.1
970	1	IBM-317-09	External User interfaces	Shall	Display retrieved data in language specified by user	Data Transformation-Data Rendering	Core		EHR - Lab	3.z.1.4	3.5. UI Accommodates Multiple Languages and Handicapped								1.3	3.3	4.1
971	1	IBM-317-10	External User interfaces	Shall	Provide accessibility for handicapped	Data Transformation-Data Rendering	Core		EHR - Lab	3.z.1.5	3.5. UI Accommodates Multiple Languages and Handicapped								1.3	3.3	4.1

ID-ONC	#	ID	Entities	Entity – Property Relation	Property	Functional Categories	Entity Role (i.e., Core or Edge)	Link to other requirements	Principal Context	Context Reference	Comments / Rationale	Closely resembles...	Associated Reference 1	Associated Reference 2	Associated Reference 3	Associated Reference 4	Associated Reference 5	Initial Review Comments	Tentative Entity Breakout Session No.	Tentative Functional Category Breakout Session No.	Tentative Use Case Breakout Session No.
755	1	IBM-301-01	External User interfaces	Shall	Prompt consumer or proxy for identification data for NHIN	Information Location-Identity/Information Correlation	Edge		EHR - Lab	3.1.1.1	1.1 Patient Identification Information *ONC Guidance regarding scope of use case: In order to develop and evaluate interoperable health information exchange, the Contractor shall demonstrate their solutions in real-world health care environments maximizing the use of existing infrastructure. Each distinct healthcare market must satisfy, at a minimum, the following criteria: a. Include 2 or more competing provider organizations b. Include at least 4 types of provider organizations (e.g., physicians practice, hospital, free standing lab, etc.), 2 of which must be an independent physician practice and a safety net provider c. Involve both inpatient and outpatient settings d. Include 2 or more end-user healthcare applications (e.g., EHRs) that will exchange information across sites of care. These applications must be the products of multiple competing vendors, deployed in clinical settings, and handle a volume at least 100,000 patient encounters per year (total across all involved applications). e. Include at least one system or application that provides data for population health purposes, e.g., biosurveillance, po via the prototype NHIN.*								1.3	3.4	4.1
827	1	IBM-307-07	External User interfaces	Shall	Send demographic information to record locator to identify patient for query. Data required is determined by the community.	Information Location-Identity/Information Correlation	Edge		EHR - Lab	3.2.4.0x	2.1 Clinician Requests Historical Results Location								1.3	3.4	4.1
834	1	IBM-307-14	External User interfaces	Shall	Provide ability for clinician to browse potential matches and confirm the correct patient for data location retrieval to locator system	Information Location-Identity/Information Correlation	Edge		EHR - Lab	3.2.3.2	2.1 Clinician Requests Historical Results Location								1.3	3.4	4.1
297	1	ACN-07.6	External User interfaces	Shall	Provide a secure and robust user authentication mechanism.	Security-Authentication	Core	N/A	Infrastructure	No Reference	The NHIN must support multiple authentication mechanisms including but not limited to username/password, X509 or other standard certificate and smart card.								1.3	3.6	4.4
298	1	ACN-07.6.1	External User interfaces	Shall	Authenticate all users before a connection to the NHIN is allowed.	Security-Authentication	Core	N/A	Infrastructure	No Reference	Before access to a NHIN system is permitted, the user must authenticate his/her identity. Each user should be given a unique identifier so that it is possible to attribute a system action to one specific individual.	CSC-SEC-50	CSC-SEC-50 All Edge Systems (CSC) Shall Authenticate user accesses into the system						1.3	3.6	4.4
299	1	ACN-07.6.2	External User interfaces	Shall	Protect user authentication credentials during transmission from the user to the NHIN.	Security-Authentication	Core	N/A	Infrastructure	No Reference	N/A								1.3	3.6	4.4
300	1	ACN-07.6.3	External User interfaces	Shall	Require multiple-factor authentication for users.	Security-Authentication	Core	N/A	Infrastructure	No Reference	User authentication to the NHIN must comprise a combination of authentication factors (something you know/have/are) and authentication mechanisms include but are not limited to username/password, X509 or other standard certificate or smart card.								1.3	3.6	4.4
301	1	ACN-07.6.4	External User interfaces	Shall	Permit single session authentication that allows user access to different applications within the NHIN.	Security-Authentication	Core	N/A	Infrastructure	No Reference	Users will not be required to authenticate to multiple systems within the NHIN within one session.								1.3	3.6	4.4
812	1	IBM-306-04	External User interfaces	Shall	Authenticate record locator sending notification of new lab result event messages	Security-Authentication	Edge		EHR - Lab	3.2.2.1x	1.6 Clinician Notified of New Lab Results								1.3	3.6	4.1
824	1	IBM-307-04	External User interfaces	Shall	Submit authentication information to locator system when querying for lab results location	Security-Authentication	Edge		EHR - Lab	3.2.4.0x	2.1 Clinician Requests Historical Results Location								1.3	3.6	4.1
884	1	IBM-308-08	External User interfaces	Shall	Submit authentication information to the data repository if sending data request directly to data repository	Security-Authentication	Edge		EHR - Lab	3.2.1.1b	2.2 Clinician Requests Historical Results from Data Repositories								1.3	3.6	4.1
1137	1	NGIT-162	External User interfaces	Shall	Authenticate user requesting data	Security-Authentication	Edge		EHR - Lab		Provide a means for users to authenticate themselves as entities for access to NHIN functions in a portal environment. Failure to satisfy NHIN authentication requirements will block access to record locator and retrieval functions.								1.3	3.6	4.1
168	1	ACN-07.11.11	External User interfaces	Shall	Provide a list of roles assigned to NHIN system users.	Security-Authorization	Core	N/A	Infrastructure	No Reference	It must be possible to identify all roles assigned to any NHIN user.								1.3	3.6	4.4
169	1	ACN-07.11.2	External User interfaces	Shall	Assign all authorized NHIN users at least one NHIN-based user role, included but not limited to: Public Health Official, NHIN Administrator, ONC Super Administrator or NHIN Security Administrator.	Security-Authorization	Core	N/A	Infrastructure	No Reference	User roles will define the functionality within the system that is accessible to a particular user role.								1.3	3.6	4.4
170	1	ACN-07.11.3	External User interfaces	Shall	Allow NHIN-based users to access only data sets associated with their assigned roles.	Security-Authorization	Core	N/A	Infrastructure	No Reference	Access to data sets are restricted by RBAC roles.								1.3	3.6	4.4
171	1	ACN-07.11.4	External User interfaces	Shall	Associate a single role with any one user session.	Security-Authorization	Core	N/A	Infrastructure	No Reference	Users with multiple roles may change roles without logging out of the session.								1.3	3.6	4.4
172	1	ACN-07.11.5	External User interfaces	Shall	Permit the Public Health Official role access to the reporting services.	Security-Authorization	Core	N/A	Infrastructure	No Reference	Public Health Official role will be used to access the reporting services in support of biosurveillance and other required Nationwide level information.								1.3	3.6	4.4
173	1	ACN-07.11.6	External User interfaces	Shall	Permit the NHIN Administrator role access to administration services relating to NHIN users.	Security-Authorization	Core	N/A	Infrastructure	No Reference	NHIN Administrator role will be used to, but not limited to, access the Identity and Access Management Service for managing NHIN users' permissions, Edge System permissions relating to the NHIN and managing the Record Locator/Linking Service.								1.3	3.6	4.4
174	1	ACN-07.11.7	External User interfaces	Shall	Provide NHIN administration capabilities to be executed only by authorized NHIN users.	Security-Authorization	Core	N/A	Infrastructure	No Reference	Implements separation of responsibility/capability between NHIN Administrator and ONC Super Administrator.								1.3	3.6	4.4
175	1	ACN-07.11.8	External User interfaces	Shall	Permit the ONC Super Administrator role access to application, system and environment administrative resources.	Security-Authorization	Core	N/A	Infrastructure	No Reference	ONC Super Administrator role will be used to access administrative information across NHIN resources, audit all users and NHIN Administrator access, and permit override capabilities at all levels.								1.3	3.6	4.4
176	1	ACN-07.11.9	External User interfaces	Shall	Permit the NHIN Security Administrator role access to security-related data.	Security-Authorization	Core	N/A	Infrastructure	No Reference	NHIN Security Administrator role will be used to monitor and audit security events.								1.3	3.6	4.4
179	1	ACN-07.12.2	External User interfaces	Shall	Assign all Edge Systems at least one NHIN-based system permissions.	Security-Authorization	Core	N/A	Infrastructure	No Reference	NHIN system permissions define which internal resources and Edge Systems a requesting Edge System can access.								1.3	3.6	4.4
180	1	ACN-07.12.3	External User interfaces	Shall	Permit Edge Systems to access internal NHIN resources/services based on their system permission.	Security-Authorization	Core	N/A	Infrastructure	No Reference	Internal NHIN resources will be protected from unauthorized access through Edge System permissions definition.								1.3	3.6	4.4
181	1	ACN-07.12.4	External User interfaces	Shall	Permit authorized Edge Systems to interface with other Edge Systems based on their system permission.	Security-Authorization	Core	N/A	Infrastructure	No Reference	Edge System communication will be brokered by the NHIN through Edge System RBAC definition. Only authorized requests will be made by the NHIN on behalf of Edge Systems.								1.3	3.6	4.4
182	1	ACN-07.12.5	External User interfaces	Shall	Permit the NHIN Administrator role to manage RBAC authorizations between Edge Systems.	Security-Authorization	Core	N/A	Infrastructure	No Reference	NHIN Administrator role will be used to access the Edge System Capability Service (located in the NHIN) for managing Edge System Role Based Access Control information.								1.3	3.6	4.4
183	1	ACN-07.12.6	External User interfaces	Shall	Create new Edge System permissions where there is a business requirement for the new permissions.	Security-Authorization	Core	N/A	Infrastructure	No Reference	N/A								1.3	3.6	4.4
184	1	ACN-07.12.7	External User interfaces	Shall	Provide a list of permissions assigned to any Edge System.	Security-Authorization	Core	N/A	Infrastructure	No Reference	It must be possible to identify all permissions assigned to any Edge System.								1.3	3.6	4.4
188	1	ACN-07.13.3	External User interfaces	Shall	Implement internal user roles with the least privilege required to perform their job function, included but not limited to: Clinician, Nurse, Administrator, Security Administrator, Technician, Secretary, Individual (Patient) and Proxy.	Security-Authorization	Edge	N/A	Infrastructure	No Reference	Edge Systems must implement access controls based on the minimum required functionalities necessary for the internal user to perform their defined job function.								1.3	3.6	4.4
189	1	ACN-07.13.4	External User interfaces	Shall	Permit internal users to only request NHIN resources for which they are authorized to access.	Security-Authorization	Edge	N/A	Infrastructure	No Reference	Edge Systems must restrict internal users from making requests to the NHIN for information or resources where they do not have authorization to access.								1.3	3.6	4.4
284	1	ACN-07.30	External User interfaces	Shall	Ensure the data sharing agreement is signed before sharing data with the NHIN.	Security-Authorization	Edge	N/A	Infrastructure	No Reference	N/A								1.3	3.6	4.4

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756	1	IBM-302-01	External User interfaces	Shall	Provide capability for consumer or proxy to provide list of providers of care to serve as consumer's authorization for data access and to automatically send results and notifications	Security-Authorization	Edge		EHR - Lab	3.1.2.1	1.2 Patient Authorizes Access List serve as consumer's authorization for data access and to automatically send results and notifications ONC Guidance: The functionality described regarding providers of care is to 1) send providers of care either the content of (new) test results or notification of (new) test results or 2) help determine appropriate access by clinicians as a patient's provider of care. One source of determining the providers of care for a patient is from the patient. How this list gets created and used for result delivery, notification and access use is implementation defined. One of the goals of the breakthrough is that historical lab results are made available to the ordering clinician and other authorized clinicians. Functionality must exist that ensure that only the ordering clinician and providers of care receive relevant test results given access and sensitivity restrictions. The harmonized use case does not prescribe the stakeholder that provides this functionality. EXCEPTION: May be difficult to accomplish patient specification of consent, other than opt-in or opt-out, within th								1.3	3.6	4.1
757	1	IBM-302-02	External User interfaces	Shall	Provide capability for consumer or proxy to indicate that test results should not be made available to providers of care other than the ordering clinician	Security-Authorization	Edge		EHR - Lab	3.1.2.1a	1.2 Patient Authorizes Access ONC Guidance: The harmonized use case discusses multiple factors (sensitivity of data, clinician access designation, patient privacy restrictions and policy or regulations) that should be considered when designing access restrictions. The specifics of which data are managed in which way are still active areas of national conversation. In general, the architectural prototypes need to define and demonstrate the several capabilities involved. EXCEPTION: May be difficult to accomplish patient specification of consent, other than opt-in or opt-out, within the time frame of the prototype								1.3	3.6	4.1
6	1	ACN-01.13	Health Information Intermediaries	Shall	Allow the pharmaceutical, medical products, and regulatory agencies to improve the processes for drug and device development, submission, approval, and safety monitoring.	Data Content-Data Quality/Data Integrity	Edge	N/A	Infrastructure	No Reference	N/A								1.5	3.1	4.4
1113	1	NGIT-136	Health Information Intermediaries	Shall	Verify integrity of unsolicited result transactions	Data Content-Data Quality/Data Integrity	Edge	NGIT-135	EHR - Lab	3.4.1.2	Acting as a repository of unsolicited updates of patient data, the system must validate the integrity, authenticity, completeness, and appropriateness of data received according to HITSP specified standards and implementation guidelines.								1.5	3.1	4.1
154	1	ACN-06.3	Health Information Intermediaries	Shall	Aggregate anonymized patient health data to support clinical research, including cohort, longitudinal, placebo population, demonstration of efficacy, pharmacoeconomic, and drug outcome comparator studies.	Data Content-Data Usage	Edge	N/A	Infrastructure	No Reference	Patient health data should be combined without including specific patient identification information to support clinical research studies using the aggregated data.								1.5	3.1	4.4
1116	1	NGIT-139	Health Information Intermediaries	May	Collect and persist laboratory result data to support electronic exchange with stakeholders	Data Storage-Persistent Data Storage	Edge		EHR - Lab	3.4.1.4	A repository of laboratory results may be implemented as a controlled source of data. The control may be maintained at a regional level or by loose network of entities, for examples.								1.5	3.3	4.1
1131	1	NGIT-156	Health Information Intermediaries	Shall	Electronically collect demographic and clinical data for public health reporting	Data Storage-Persistent Data Storage	Edge		Bio		Collect data as specified by PHA requirements (limited demographics, clinical, orders (labs/rads), results)								1.5	3.3	4.2
1124	1	NGIT-149	Health Information Intermediaries	Shall	Receive and process well formed query for laboratory test results according to HITSP specified implementation instructions	Data Transaction-(Pull)	Edge		EHR - Lab	3.4.3.0	Lab result repository is potential source of lab result data								1.5	3.2	4.1
1130	1	NGIT-155	Health Information Intermediaries	Shall	Transmit well formed result messages according to a HITSP specified implementation instruction.	Data Transaction-(Pull)	Edge		EHR - Lab	3.4.3.4	Results transmitted in response to authorized request for test results.								1.5	3.2	4.1
1112	1	NGIT-135	Health Information Intermediaries	Shall	Receive and process well formed laboratory test results according to HITSP specified standards and implementation instructions	Data Transaction-(Push)	Edge		EHR - Lab	3.4.1.1	Applicable to an architecture implementing a result repository.								1.5	3.2	4.1
1135	1	NGIT-160	Health Information Intermediaries	Shall	Transmit data to support public health biosurveillance	Data Transaction-(Push)	Edge		Bio		Data on patient-clinician encounters will be provided to a network communicating with public health agencies per agreement between entities. Agreements shall specify the role a CDO NHIN interface performs regarding the filtering, aggregation, anonymization, and routing of data.								1.5	3.2	4.2
1114	1	NGIT-137	Health Information Intermediaries	Shall	Acknowledge receipt of lab result data	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.4.1.3	Acknowledgement will confirm appropriateness or inappropriateness of transmission per validation check.								1.5	3.2	4.1
1115	1	NGIT-138	Health Information Intermediaries	Shall	Maintain a log of interactions with external data systems	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.4.1.6	Log data must include history of the receipt, storage, and destruction (where appropriate) of lab result data received from other source systems.								1.5	3.2	4.1
3	1	ACN-01.10	Health Information Intermediaries	Shall	Allow payers, providers, patients and other stakeholders the ability to share information to support medical research.	Data Transaction-Data Access and Update	Edge	N/A	Infrastructure	No Reference	N/A								1.5	3.2	4.4
4	1	ACN-01.11	Health Information Intermediaries	Shall	Allow payers, providers, patients and other stakeholders the ability to share information to support drug safety and post-marketing drug surveillance.	Data Transaction-Data Access and Update	Edge	N/A	Infrastructure	No Reference	N/A								1.5	3.2	4.4
5	1	ACN-01.12	Health Information Intermediaries	Shall	Allow payers, providers, patients, and other stakeholders to improve the processes needed for clinical trial recruitment and execution.	Data Transaction-Data Access and Update	Edge	N/A	Infrastructure	No Reference	N/A								1.5	3.2	4.4
7	1	ACN-01.14	Health Information Intermediaries	Shall	Allow payers, providers, patients and other stakeholders the ability to share information to support public health surveillance.	Data Transaction-Data Access and Update	Edge	N/A	Infrastructure	Biosurveillance	N/A								1.5	3.2	4.4
8	1	ACN-01.15	Health Information Intermediaries	Shall	Allow payers, providers, patients and other stakeholders the ability to share information to support care management and other quality initiatives.	Data Transaction-Data Access and Update	Edge	N/A	Infrastructure	No Reference	N/A								1.5	3.2	4.4
16	1	ACN-01.9	Health Information Intermediaries	Shall	Allow payers, providers, patients and other stakeholders the ability to share information to support patient care.	Data Transaction-Data Access and Update	Edge	N/A	Infrastructure	No Reference	N/A								1.5	3.2	4.4
462	1	CSC-NFR-20	Health Information Intermediaries	Shall	Support patient safety through transmitting clinical data fully and accurately, by logging and making displayable all intermediate data transformations	Non-Functional-Accuracy	Edge		Infrastructure										1.5	3.5	4.4
469	1	CSC-NFR-30	Health Information Intermediaries	Should	Comply with "service level agreements" based on end-user / health market specified quality-of-service agreements	Non-Functional-Performance	Edge		Infrastructure										1.5	3.5	4.4
471	1	CSC-NFR-50	Health Information Intermediaries	Should	Support modular addition of processing and storage resources to cater to additional users as the usage of the NHIN increases	Non-Functional-Scalability	Edge		Infrastructure										1.5	3.5	4.4
1129	1	NGIT-154	Health Information Intermediaries	May	Authorize query request for lab result data	Security-Authorization	Edge		EHR - Lab	3.4.3.3	Additional validation of request may be performed (specifying requisition or order number, dates of activity)								1.5	3.6	4.1
105	1	ACN-04.15	Message Handling	Shall	Communicate patient health data to other edge systems in the NHIN standard message format.	Data Content-Data Usage	Edge	N/A	Infrastructure	No Reference	Communication between edge systems will utilize a standard message format.									3.1	4.4
38	1	ACN-02.3.12	Message Handling	Shall	Send the requested patient data to the provider at the requesting edge system.	Data Transaction-(Push)	Edge	N/A	CE, EHR	3.4.3	The edge system containing the requested information must send the data back to the requestor.									3.2	4.4
49	1	ACN-02.3.9	Message Handling	Shall	Wait a specified configurable time for a request to be returned.	Data Transaction-Data Access and Update	Edge	N/A	Infrastructure	No Reference	The length of time a requesting system should wait to receive a response needs to be configured.									3.2	4.4
571	1	IBM-107-05	Message Handling	Should	Determine entities to receive biosurveillance event response "broadcast" messages based on authorization by sender and subscription by receiver to support event response	Data Transaction-Data Routing	Core		Biosurveillance	1.z.3.5	7.1 PH Community - Event Response - Secure Broadcast Messaging									3.2	4.2
572	1	IBM-107-06	Message Handling	Should	Determine entities to receive biosurveillance event response "broadcast" message based on one or more business rules (e.g. location of outbreak, severity of event, etc) to support event response	Data Transaction-Data Routing	Core		Biosurveillance	1.z.3.6	7.1 PH Community - Event Response - Secure Broadcast Messaging									3.2	4.2
573	1	IBM-107-07	Message Handling	May	Send biosurveillance event response 'broadcast' messages according to authorized recipient's specified mode (secure email, web application, EHR/responder system)	Data Transaction-Data Routing	Core		Biosurveillance	1.z.3.7	7.1 PH Community - Event Response - Secure Broadcast Messaging									3.2	4.2
39	1	ACN-02.3.13	Message Handling	Shall	Aggregate request results into a consolidated message.	Data Transformation-Data Rendering	Edge	N/A	CE, EHR	No Reference	The edge system containing the requested information must aggregate the data prior to sending it.									3.3	4.4
40	1	ACN-02.3.14	Message Handling	Shall	Format the received data in a way which is understandable to the end user	Data Transformation-Data Rendering	Edge	N/A	CE, EHR	No Reference	The receiving system must format the data so that it is usable and meaningful, before displaying it to the end user.									3.3	4.4

ID-ONC	#	ID	Entities	Entity – Property Relation	Property	Functional Categories	Entity Role (i.e., Core or Edge)	Link to other requirements	Principal Context	Context Reference	Comments / Rationale	Closely resembles…	Associated Reference 1	Associated Reference 2	Associated Reference 3	Associated Reference 4	Associated Reference 5	Initial Review Comments	Tentative Entity Breakout Session No.	Tentative Functional Category Breakout Session No.	Tentative Use Case Breakout Session No.
36	1	ACN-02.3.10	Message Handling		Shall	Notify requesting edge systems that identified edge systems contain the requested data.	Information Location-Record Location	Core	N/A	Infrastructure	No Reference	Once the NHIN has identified which edge systems contain data for the patient in question, the NHIN must pass these locations back to the requesting system.									3.4	4.4
119	1	ACN-05.1.1.2	Message Handling		Shall	Respond to message requests within an agreed upon time.	Non-Functional-Performance	Core	N/A	Infrastructure	No Reference	The NHIN and Edge system should set up an agreed response time prior to data submission.	ACN-05.1.1.3	ACN-05.1.1.3 Message handling Shall Respond to message requests within an agreed upon time. (Edge)							3.5	4.4
120	1	ACN-05.1.1.3	Message Handling		Shall	Respond to message requests within an agreed upon time.	Non-Functional-Performance	Edge	N/A	Infrastructure	No Reference	The NHIN and Edge system should set up an agreed response time prior to data submission.	ACN-05.1.1.2	ACN-05.1.1.2 Message handling Shall Respond to message requests within an agreed upon time. (Core)							3.5	4.4
574	1	IBM-107-08	Message Handling		Shall	Send biosurveillance event response 'broadcast' messages in real time	Non-Functional-Performance	Core		Biosurveillance	1.z.3.8	7.1 PH Community - Event Response - Secure Broadcast Messaging									3.5	4.2
524	1	IBM-102-12	Message Handling		Shall	Transmit data to public health agencies in secure manner	Security-Confidentiality	Core		Biosurveillance	1.1.5.1X	2.4 Individual CDOs - Route, Transmit, Audit Log Requested Data									3.6	4.2
539	1	IBM-103-12	Message Handling		Shall	Transmit data to public health agencies in secure manner	Security-Confidentiality	Core		Biosurveillance	1.2.5.1X	3.4 Integrated CDOs - Route, Transmit, Audit Log Requested Data									3.6	4.2
575	1	IBM-107-09	Message Handling		Shall	Transmit the biosurveillance event response "broadcast" messages conforming to approved privacy, security and messaging standards as provided by HITSP or as determined by the marketplace in the absence of approved standards	Security-Confidentiality	Core		Biosurveillance	1.z.3.9	7.1 PH Community - Event Response - Secure Broadcast Messaging									3.6	4.2
1032	1	NGIT-006	Message Handling		Shall	Support transport level security	Security-Confidentiality			Infrastructure		SSL, for example									3.6	4.4
18	1	ACN-02.1	MPI		Shall	Contain an index of unique patients participating in the NHIN.	Information Location-Identity/Information Correlation	Core	N/A	Infrastructure	No Reference	N/A								2.2	3.4	4.4
19	1	ACN-02.1.1	MPI		Shall	Uniquely identify a person by some or all of the following attributes: - Last Name - Middle Name - First Name - Date of Birth - Gender - Place of Birth - Social Security Number - Mother's Maiden Name - Address	Information Location-Identity/Information Correlation	Core	N/A	Infrastructure	No Reference	These demographics elements are generally sufficient to uniquely identify a person.								2.2	3.4	4.4
20	1	ACN-02.1.2	MPI		Shall	Receive unique patient information from participating edge systems.	Information Location-Identity/Information Correlation	Core	N/A	Infrastructure	No Reference	Edge systems must be able to send demographic information to the NHIN for use in the MPI.								2.2	3.4	4.4
21	1	ACN-02.1.2.1	MPI		Shall	Add new patient identifier information to the patient index.	Information Location-Identity/Information Correlation	Core	N/A	Infrastructure	No Reference	When information for a new patient is received, it must be added to the index.								2.2	3.4	4.4
22	1	ACN-02.1.2.2	MPI		Shall	Update patient identifier information in the patient index.	Information Location-Identity/Information Correlation	Core	N/A	Infrastructure	No Reference	When updated information for a preexisting patient is received, the index record should be updated.								2.2	3.4	4.4
23	1	ACN-02.1.2.3	MPI		Shall	Add patient consent information to the patient index for patients willing to share their data.	Information Location-Identity/Information Correlation	Core	N/A	Infrastructure	No Reference	The system must store a patient's consent decision to allow data sharing.								2.2	3.4	4.4
24	1	ACN-02.1.2.4	MPI		Shall	Add patient dissent information to the patient index for patients not willing to share their data.	Information Location-Identity/Information Correlation	Core	N/A	CE - Consumer	No Reference	The system must track a patient's decision not to participate in data sharing.								2.2	3.4	4.3
25	1	ACN-02.1.2.5	MPI		Shall	Receive patient information when sent from edge systems.	Information Location-Identity/Information Correlation	Core	N/A	Infrastructure	No Reference	The NHIN must accept data sent by trusted edge systems.								2.2	3.4	4.4
26	1	ACN-02.1.2.6	MPI		Shall	Validate patient information when sent from edge systems.	Information Location-Identity/Information Correlation	Core	N/A	Infrastructure	No Reference	The NHIN must validate transactions before updating any systems.								2.2	3.4	4.4
27	1	ACN-02.1.3	MPI		Shall	Link patient identifiers for a patient that exists in multiple edge systems.	Information Location-Identity/Information Correlation	Core	N/A	Infrastructure	No Reference	For patients found in multiple edge systems, the system must recognize that separate patients are in fact the same person.								2.2	3.4	4.4
28	1	ACN-02.1.4	MPI		Shall	Unlink patient identifiers for patients incorrectly linked to other patients.	Information Location-Identity/Information Correlation	Core	N/A	Infrastructure	No Reference	For patients incorrectly linked, the system must allow an administrator to unlink patient data, creating one or more new patient identities.								2.2	3.4	4.4
113	1	ACN-04.8	MPI		Shall	Uniquely identify a person by some or all of the following attributes: - Last Name - Middle Name - First Name - Date of Birth - Gender - Place of Birth - Social Security Number - Mother's Maiden Name - Address	Information Location-Identity/Information Correlation	Edge	N/A	Infrastructure	No Reference	Communications with the NHIN must include enough demographic data to uniquely identify the patient.								2.2	3.4	4.4
114	1	ACN-04.9	MPI		Shall	Uniquely identify a provider by some or all of the following attributes: - Provider OID - Name - Role - Provider Organization - DEA # - License # - State Licensed In	Information Location-Identity/Information Correlation	Edge	N/A	Infrastructure	No Reference	Communications with the NHIN must include enough data to uniquely identify the provider.								2.2	3.4	4.4
445	1	CSC-EHR-460	MPI		May	Be used locally within a CDO or SNO to allow a clinician to browse and select from among candidate patient matches.	Information Location-Identity/Information Correlation	Edge	CSC-ALL-250	EHR - Lab	3.2.3.3a									2.2	3.4	4.1
831	1	IBM-307-11	MPI		Shall	Provide method for clinician and locator system to agree on patient identity through patient trait matching, shared MPI or patient identifier matching (as determined by the marketplace)	Information Location-Identity/Information Correlation	Core		EHR - Lab	3.2.3.2	2.1 Clinician Requests Historical Results Location	IBM-307-12	IBM-307-12 MPI Shall Provide method for clinician and locator system to agree on patient identity through patient trait matching, shared MPI or patient identifier matching (as determined by the marketplace)							2.2	3.4	4.1
1033	1	NGIT-007	MPI		Shall	Maintain index of patients registered at particpating entities	Information Location-Identity/Information Correlation	Core		Infrastructure		Index will define all entities (locations) that have data associated to patients/person.								2.2	3.4	4.4
1034	1	NGIT-008	MPI		Shall	Determine unambiguous match of patient identities supported by entities associated with the network	Information Location-Identity/Information Correlation	Core		Infrastructure		matching occurs during upload or at time of query	NGIT-134	NGIT-134 MPI Shall Support unambiguous matching and subsequent correlation of patient identities for the purpose of locating records							2.2	3.4	4.4
1035	1	NGIT-009	MPI		Shall	Return patient identifiers previously uploaded by data sources for a uniquely identified patient	Information Location-Identity/Information Correlation	Core	NGIT-008	Infrastructure		The patient will be identified by a single identifier or a collection of traits								2.2	3.4	4.4
317	1	CSC-ALL-250	MPI		May	Allow for clinician interaction to ascertain the identities of patients within the SNO	Non-Functional-Robustness	Edge		Infrastructure		While clinician interaction is not allowed to disambiguate patient identities between SNOs, individual MPIs within a SNO may allow this interaction.								2.2	3.5	4.4
126	1	ACN-05.1.3	NHIN Administration		Shall	Establish Operational Agreements with all certified members.	Data Content-Data Usage	Core	N/A	Infrastructure	No Reference	It is necessary for the NHIN and edge systems to establish operational agreements with a certified members prior to data submission.							Too Broad	1.2	3.1	4.4
98	1	ACN-04	NHIN Administration		Shall	Perform core functions needed to share data in the NHIN.	Data Transaction-Data Access and Update	Edge	N/A	Infrastructure	No Reference	It is necessary to have providers and patients registered to use the system.							Too Broad	1.2	3.2	4.4
116	1	ACN-05.1	NHIN Administration		Shall	Abide by Service Level Agreements (SLA).	Non-Functional-Performance	Core	N/A	Infrastructure	No Reference	It is necessary for the NHIN and edge systems to have service level agreements set up prior to data submission.		ACN-05.1.1 NHIN Administration Shall Abide by Service Level Agreements (SLA) for performance.						Too Broad	1.2	3.5	4.4
121	1	ACN-05.1.1.4	NHIN Administration		Shall	Respond to non-messaging requests for information within an agreed upon time.	Non-Functional-Performance	Core	N/A	Infrastructure	No Reference	It is necessary for the NHIN and Edge systems to adhere to agreed response time for requests. The NHIN and Edge system should set up an agreed response time prior to data submission. These are non-messaging requests, such as phone or e-mail communications.								1.2	3.5	4.4
122	1	ACN-05.1.1.5	NHIN Administration		Shall	Respond to non-messaging requests for information within an agreed upon time.	Non-Functional-Performance	Edge	N/A	Infrastructure	No Reference	It is necessary for the NHIN and Edge systems to adhere to agreed response time for requests. The NHIN and Edge system should set up an agreed response time prior to data submission. These are non-messaging requests, such as phone or e-mail communications.								1.2	3.5	4.4
123	1	ACN-05.1.1.6	NHIN Administration		Shall	Notify the NHIN of any relevant changes to their system.	Non-Functional-Robustness	Edge	N/A	Infrastructure	Policy	The edge system should notify the NHIN when changes occur, including, but not limited to, downtimes, upgrades, maintenance, and issues.								1.2	3.5	4.4

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156	1	ACN-07.1	NHIN Administration	Shall	Provide consent management.	Security-Authorization	Core	N/A	Infrastructure	No Reference	The NHIN system must be flexible and capable of handling multiple consent states (implied consent/dissent, expressed consent/dissent, undetermined).								1.2	3.6	4.4
164	1	ACN-07.10.3	NHIN Administration	Shall	Allow authorized users to override view restrictions to specific data associated with an individual's clinical treatment.	Security-Authorization	Edge	N/A	CE, EHR	No Reference	Users must have the ability to override viewing restrictions where there is a legitimate need.								1.2	3.6	4.4
245	1	ACN-07.2	NHIN Administration	Shall	Provide consent management.	Security-Authorization	Edge	N/A	Infrastructure	No Reference	Edge systems must be flexible and capable of handling multiple consent states (implied consent/dissent, expressed consent/dissent, undetermined), where applicable.								1.2	3.6	4.4
249	1	ACN-07.2.4	NHIN Administration	Shall	Permit consent override by authorized users.	Security-Authorization	Edge	N/A	Infrastructure	No Reference	It must be possible to override the consent control where there is a legitimate need to do so and the override action must be made obvious to the user, where applicable.								1.2	3.6	4.4
30	1	ACN-02.2.1	NHIN Administration-Audit Trail	Shall	Log requests for patient data.	Data Transaction-Audit & Logging	Core	N/A	CE, EHR	3.2.3	All successful/unsuccessful requests for patient data should be logged and include the requestor name and reason.	ACN-02.2.2	ACN-02.2.2 NHIN Administration-Audit Trail Shall Save copies of requests for patient data.						1.2	3.2	4.4
32	1	ACN-02.2.3	NHIN Administration-Audit Trail	Shall	Notify the requesting edge system that it received the request for patient data.	Data Transaction-Audit & Logging	Core	N/A	CE, EHR	3.2.3	The NHIN must acknowledge receipt of the data request.								1.2	3.2	4.4
33	1	ACN-02.2.4	NHIN Administration-Audit Trail	Shall	Log notifications.	Data Transaction-Audit & Logging	Core	N/A	CE, EHR	3.2.3	These notifications should be logged, to allow for appropriate auditing.								1.2	3.2	4.4
37	1	ACN-02.3.11	NHIN Administration-Audit Trail	Shall	Log notifications sent to the requesting systems about requests being processed.	Data Transaction-Audit & Logging	Core	N/A	CE, EHR	3.4	The NHIN needs to keep the requesting system informed on the status of the request.								1.2	3.2	4.4
42	1	ACN-02.3.2	NHIN Administration-Audit Trail	Shall	Log the notification sent to the user.	Data Transaction-Audit & Logging	Core	N/A	CE, EHR	3.2.3	It is necessary to save successful/unsuccessful notifications sent to the user for auditing purposes.								1.2	3.2	4.4
44	1	ACN-02.3.4	NHIN Administration-Audit Trail	Shall	Log requests sent to identified systems.	Data Transaction-Audit & Logging	Core	N/A	CE, EHR	3.2.3	It is necessary to save all requests sent from the NHIN for audit purposes.								1.2	3.2	4.4
45	1	ACN-02.3.5	NHIN Administration-Audit Trail	Shall	Receive confirmation from an edge system that it received the request for patient data.	Data Transaction-Audit & Logging	Core	N/A	CE, EHR	3.2.3	All communication messages must be acknowledged. The notification is important so no messages are lost during processing.								1.2	3.2	4.4
46	1	ACN-02.3.6	NHIN Administration-Audit Trail	Shall	Log confirmations from edge systems.	Data Transaction-Audit & Logging	Core	N/A	CE, EHR	3.2.3	All successful/unsuccessful confirmations from edge systems should be logged for auditing purposes.								1.2	3.2	4.4
48	1	ACN-02.3.8	NHIN Administration-Audit Trail	Shall	Log timeout notifications sent to the user.	Data Transaction-Audit & Logging	Core	N/A	CE, EHR	No Reference	If a user is notified that data is present, but not available, these notifications should be logged.								1.2	3.2	4.4
50	1	ACN-02.4	NHIN Administration-Audit Trail	Shall	Generate administrative reports.	Data Transaction-Audit & Logging	Core	N/A	Infrastructure	No Reference	The NHIN system should generate administrative reports in a readable format.								1.2	3.2	4.4
51	1	ACN-02.4.1	NHIN Administration-Audit Trail	Shall	Generate system monitoring reports.	Data Transaction-Audit & Logging	Core	N/A	Infrastructure	No Reference	The NHIN system should generate system monitoring reports to detail who has accessed the system and when the access occurred.		ACN-02.4.2...Admin-Audit Trail Shall Generate reports monitoring logging activity.						1.2	3.2	4.4
53	1	ACN-02.4.3	NHIN Administration-Audit Trail	Shall	Generate alerts/notifications for activity outside the normal range of monitoring levels.	Data Transaction-Audit & Logging	Core	N/A	Biosurveillance	No Reference	The NHIN system should have a mechanism for alerting the appropriate parties when the system monitoring identifies situations that require immediate action.								1.2	3.2	4.2
198	1	ACN-07.16.1	NHIN Administration-Audit Trail	Shall	Log all relevant infrastructure level authentication attempts.	Data Transaction-Audit & Logging	Core	N/A	Infrastructure	No Reference	User, administrator and system connecting to infrastructure resources in the NHIN environment must be logged to ensure all successful and failed activity can be traced.								1.2	3.2	4.4
199	1	ACN-07.16.10	NHIN Administration-Audit Trail	Shall	Log all configuration changes.	Data Transaction-Audit & Logging	Core	N/A	Infrastructure	No Reference	Successful/Unsuccessful configuration changes are logged at the application, infrastructure and operating system level to ensure that all changes can be tracked.								1.2	3.2	4.4
200	1	ACN-07.16.11	NHIN Administration-Audit Trail	Shall	Log all modifications to consent status (for data sharing).	Data Transaction-Audit & Logging	Core	N/A	Infrastructure	No Reference	All attempts to modify consent (successful and unsuccessful) must be logged, to include but not limited to, who (user making update), when (date, time), where (from which organization) and why.								1.2	3.2	4.4
201	1	ACN-07.16.12	NHIN Administration-Audit Trail	Shall	Consolidate logs from NHIN systems in a central repository.	Data Transaction-Audit & Logging	Core	N/A	Infrastructure	No Reference	All system, application and Infrastructure logs will be consolidated to a centralized log server for analysis, alerting and reporting.							Architecturally specific	1.2	3.2	4.4
203	1	ACN-07.16.14	NHIN Administration-Audit Trail	Shall	Allow thresholds to be set to determine activities requiring further investigation.	Data Transaction-Audit & Logging	Core	N/A	Infrastructure	No Reference	Thresholds will determine activity outside of the baseline of normal system activity. Thresholds are set for tolerated deviation from normal system activity. Any activity outside the threshold must be detected and addressed.								1.2	3.2	4.4
204	1	ACN-07.16.15	NHIN Administration-Audit Trail	Shall	Generate notifications based on anomalous system activity.	Data Transaction-Audit & Logging	Core	N/A	Infrastructure	No Reference	Reports and Alerts must be triggered when established thresholds are exceeded.								1.2	3.2	4.4
205	1	ACN-07.16.16	NHIN Administration-Audit Trail	Shall	Generate evidence to support incident management and response processes.	Data Transaction-Audit & Logging	Core	N/A	Infrastructure	No Reference	In the event of an incident outbreak e.g. virus /worm attack or denial of service, evidence must be captured.								1.2	3.2	4.4
206	1	ACN-07.16.2	NHIN Administration-Audit Trail	Shall	Log all relevant system level authentication attempts.	Data Transaction-Audit & Logging	Core	N/A	Infrastructure	No Reference	User, administrator and system connecting to system resources in the NHIN environment must be logged to ensure all successful and failed activity can be traced.								1.2	3.2	4.4
207	1	ACN-07.16.3	NHIN Administration-Audit Trail	Shall	Log all relevant application level authentication attempts.	Data Transaction-Audit & Logging	Core	N/A	Infrastructure	No Reference	User, administrator and system connecting to application resources in the NHIN environment must be logged to ensure all successful and failed activity can be traced.								1.2	3.2	4.4
209	1	ACN-07.16.5	NHIN Administration-Audit Trail	Shall	Log all relevant system level access events.	Data Transaction-Audit & Logging	Core	N/A	Infrastructure	No Reference	User, administrator and system accessing system resources in the NHIN environment must be logged.	ACN-07.16.4	ACN-07.16.4 NHIN Administration-Audit Trail Shall Log all relevant infrastructure level access events.						1.2	3.2	4.4
210	1	ACN-07.16.6	NHIN Administration-Audit Trail	Shall	Log all relevant application level access events.	Data Transaction-Audit & Logging	Core	N/A	Infrastructure	No Reference	User, administrator and system accessing application resources in the NHIN environment must be logged.								1.2	3.2	4.4
211	1	ACN-07.16.7	NHIN Administration-Audit Trail	Shall	Log all relevant user management events.	Data Transaction-Audit & Logging	Core	N/A	Infrastructure	No Reference	User, administrator and system user management activities in the NHIN environment must be logged.								1.2	3.2	4.4
212	1	ACN-07.16.8	NHIN Administration-Audit Trail	Shall	Log details necessary to support investigations and corrective action.	Data Transaction-Audit & Logging	Core	N/A	Infrastructure	No Reference	Data details required to support investigations, trouble shooting and remedial action include, but are not limited to, who (user, role), what (access type), when (date) and origin/destination must be logged.								1.2	3.2	4.4
213	1	ACN-07.16.9	NHIN Administration-Audit Trail	Shall	Retain logs for a period of time as defined in the retention standard.	Data Transaction-Audit & Logging	Core	N/A	Infrastructure	No Reference	All application, infrastructure and operating system logs will be retained to ensure there are audit trails for future use. Retention timeline would be driven by federal, state and local retention standards.								1.2	3.2	4.4
215	1	ACN-07.17.1	NHIN Administration-Audit Trail	Shall	Log all relevant infrastructure level authentication attempts.	Data Transaction-Audit & Logging	Edge	N/A	Infrastructure	No Reference	User, administrator and system connecting to infrastructure resources in the Edge System environment must be logged to ensure all successful and failed activity can be traced.								1.2	3.2	4.4
217	1	ACN-07.17.11	NHIN Administration-Audit Trail	Shall	Log all configuration changes.	Data Transaction-Audit & Logging	Edge	N/A	Infrastructure	No Reference	Successful/Unsuccessful configuration changes are logged at the application, infrastructure and operating system level to ensure that all changes are captured.								1.2	3.2	4.4
218	1	ACN-07.17.12	NHIN Administration-Audit Trail	Shall	Log all modifications to consent status (for data sharing).	Data Transaction-Audit & Logging	Edge	N/A	Infrastructure	No Reference	All attempts to modify consent (successful and unsuccessful) will be logged.								1.2	3.2	4.4
224	1	ACN-07.17.2	NHIN Administration-Audit Trail	Shall	Log all relevant system level authentication attempts.	Data Transaction-Audit & Logging	Edge	N/A	Infrastructure	No Reference	User, administrator and system connecting to system resources in the Edge System environment must be logged to ensure all successful and failed activity can be traced.								1.2	3.2	4.4
225	1	ACN-07.17.3	NHIN Administration-Audit Trail	Shall	Log all relevant application level authentication attempts.	Data Transaction-Audit & Logging	Edge	N/A	Infrastructure	No Reference	User, administrator and system connecting to application resources in the Edge System environment must be logged to ensure all successful and failed activity can be traced.								1.2	3.2	4.4
227	1	ACN-07.17.5	NHIN Administration-Audit Trail	Shall	Log all relevant system level access events.	Data Transaction-Audit & Logging	Edge	N/A	Infrastructure	No Reference	User, administrator and system accessing system resources in the Edge System environment.	ACN-07.17.4	ACN-07.17.4 NHIN Administration-Audit Trail Shall Log all relevant infrastructure level access events.						1.2	3.2	4.4
228	1	ACN-07.17.6	NHIN Administration-Audit Trail	Shall	Log all relevant application level access events.	Data Transaction-Audit & Logging	Edge	N/A	Infrastructure	No Reference	User, administrator and system accessing application resources in the Edge System environment, including access overrides.								1.2	3.2	4.4
229	1	ACN-07.17.7	NHIN Administration-Audit Trail	Shall	Log all modifications to legitimate need access events.	Data Transaction-Audit & Logging	Edge	N/A	Infrastructure	No Reference	A legitimate need is defined as being involved in medical treatment for the individual. All creations, modifications and terminations of these relationships must be logged.								1.2	3.2	4.4
230	1	ACN-07.17.8	NHIN Administration-Audit Trail	Shall	Log all relevant user management events.	Data Transaction-Audit & Logging	Edge	N/A	Infrastructure	No Reference	User, administrator and system user management activities in the Edge System environment must be logged.								1.2	3.2	4.4

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231	1	ACN-07.17.9	NHIN Administration-Audit Trail	Shall	Log details necessary to support investigations and corrective action.	Data Transaction-Audit & Logging	Edge	N/A	Infrastructure	No Reference	Data details required to support investigations, trouble shooting and remedial action include, but are not limited to who (user, role), what (access type), when (date) and origin/destination.								1.2	3.2	4.4
463	1	CSC-NFR-210	NHIN Administration-Audit Trail	Shall	Provide easy to use interface to message history logs and support rebuilding of patient medical records at specific points in time	Data Transaction-Audit & Logging	Edge		Infrastructure									Feature	1.2	3.2	4.4
464	1	CSC-NFR-220	NHIN Administration-Audit Trail	Shall	Comply with legal and regulatory requirements for retention of clinical data.	Data Transaction-Audit & Logging	Edge		Infrastructure										1.2	3.2	4.4
657	1	IBM-207-37	NHIN Administration-Audit Trail	Shall	Create an audit log for updated data fields	Data Transaction-Audit & Logging	Core	IBM-207-30	Infrastructure	2.1.5.5x	4.2 Updating a PHR								1.2	3.2	4.4
716	1	IBM-211-09	NHIN Administration-Audit Trail	Shall	Log interaction	Data Transaction-Audit & Logging	Core		Infrastructure	2.2.4.5	7.2 Closing a PHR	IBM-205-24 IBM-207-24 IBM-209-41	IBM-205-24...Admin-Audit Trail Shall Create an audit log for each entity that sends data to the PHR	IBM-207-24 NHIN Administration-Audit Trail Shall Create an audit log for each entity that sends data to the PHR	IBM-209-41...Admin-Audit Trail Shall Create audit log				1.2	3.2	4.4
1065	1	NGIT-080	NHIN Administration-Audit Trail	May	Maintain log of transactions between data suppliers and receivers	Data Transaction-Audit & Logging	Core		Bio										1.2	3.2	4.2
35	1	ACN-02.3.1	NHIN Administration-Audit Trail	Shall	Notify users when edge systems do not contain any data about the requested patient.	Information Location-Record Location	Core	N/A	CE, EHR	3.2.3	If the patient is not found, the NHIN must send a notification back to the requesting system indicating that no data is available.								1.2	3.4	4.4
576	1	IBM-107-10	NHIN Administration-Biosurveillance Responder System (IBM)	Shall	Receive biosurveillance event response 'broadcast" messages	Data Content-Data Quality/Data Integrity	Edge	IBM-107-08	Biosurveillance	1.z.3.10	7.1 PH Community - Event Response - Secure Broadcast Messaging								1.2	3.1	4.2
570	1	IBM-107-04	NHIN Administration-Biosurveillance Responder System (IBM)	May	Allows biosurveillance responder to subscribe to receive biosurveillance event response messages as secure email and/or directly into web application to support event response	Data Transaction-(Pull)	Edge		Biosurveillance	1.z.3.4	7.1 PH Community - Event Response - Secure Broadcast Messaging								1.2	3.2	4.2
578	1	IBM-107-12	NHIN Administration-Biosurveillance Responder System (IBM)	May	Provide capability for secure, instant text or audio messaging or video conferencing between Public Health and authorized Responder to support event response	Data Transaction-(Push)	Edge		Biosurveillance	1.z.3.12	7.2 PH Community - Event Response - Secure Interactive Messaging								1.2	3.2	4.2
100	1	ACN-04.10	NHIN Administration-Consumer Authorization	Shall	Establish patient-provider relationships.	Information Location-Identity/Information Correlation	Edge	N/A	Infrastructure	No Reference	It is necessary to establish which provider is authorized to view which patients. This should also establish which provider a patient is authorized to view.								1.2	3.4	4.4
157	1	ACN-07.1.1	NHIN Administration-Consumer Authorization	Shall	Capture an individual's consent to sharing his/her data.	Security-Authorization	Core	N/A	Infrastructure	No Reference	It is necessary to capture the date when patient consent was given, and the identity of the user who updated the consent status.								1.2	3.6	4.4
158	1	ACN-07.1.2	NHIN Administration-Consumer Authorization	Shall	Capture any change in an individual's consent to sharing his/her data.	Security-Authorization	Core	N/A	Infrastructure	No Reference	Individuals must be permitted to change their consent status at any time.								1.2	3.6	4.4
159	1	ACN-07.1.3	NHIN Administration-Consumer Authorization	Shall	Allow only authorized access to an individual's data based on their consent status.	Security-Authorization	Core	N/A	Infrastructure	No Reference	Access to an individual's data must be conditional, subject to the individual's consent status.								1.2	3.6	4.4
160	1	ACN-07.1.4	NHIN Administration-Consumer Authorization	Shall	Provide consent status to authorized requesting systems.	Security-Authorization	Core	N/A	Infrastructure	No Reference	Consent status must be made available to other systems requesting access to data. Access to data must be conditional, subject to the individual's consent status.								1.2	3.6	4.4
161	1	ACN-07.10	NHIN Administration-Consumer Authorization	Shall	Implement a data restriction service.	Security-Authorization	Edge	N/A	CE, EHR	3.4.1.4 Sealed envelope	It must be possible for a user to restrict access to a specific data set related to a medical diagnosis/treatment based on his/her professional discretion, on the request of the individual, legal requirement, or other legitimate reasons.								1.2	3.6	4.4
162	1	ACN-07.10.1	NHIN Administration-Consumer Authorization	Shall	Allow users to restrict access to specific data associated with a clinical diagnosis and/or treatment.	Security-Authorization	Edge	N/A	CE, EHR	3.4.1.4 Sealed envelope	It must be possible for a user to restrict access to a specific data set related to a medical diagnosis/treatment based on his/her professional discretion, on the request of the individual, legal requirement, or other legitimate reasons.								1.2	3.6	4.4
163	1	ACN-07.10.2	NHIN Administration-Consumer Authorization	Shall	Indicate that certain data has been restricted from viewing.	Security-Authorization	Edge	N/A	CE, EHR	3.4.1.4 Sealed envelope	It must be obvious to users that data has been restricted from view and the information presented is not complete.								1.2	3.6	4.4
194	1	ACN-07.15.1	NHIN Administration-Consumer Authorization	Shall	Permit individuals to select which users can view some or all of their data.	Security-Authorization	Edge	N/A	CE - Consumer	2.1.1.0, 2.1.2.0	Individuals must be able to grant access to all or portions of their data to specific Edge System users.	ACN-07.15.2	ACN-07.15.2 NHIN Administration-Consumer Authorization Shall Permit individuals to select which users are restricted from viewing some or all of their data.						1.2	3.6	4.3
196	1	ACN-07.15.3	NHIN Administration-Consumer Authorization	Shall	Permit view restriction override by authorized users.	Security-Authorization	Edge	N/A	CE - Consumer	No Reference	It must be possible to override the view restriction control where there is a legitimate need to do so and the user is authorized to use the override functionality. It must be made obvious to the user when he/she evokes an override .								1.2	3.6	4.3
246	1	ACN-07.2.1	NHIN Administration-Consumer Authorization	Shall	Capture an individual's consent to sharing his/her data.	Security-Authorization	Edge	N/A	Infrastructure	No Reference	It is necessary to capture the date when patient consent was given, and the identity of the user who updated the consent status, where applicable.								1.2	3.6	4.4
247	1	ACN-07.2.2	NHIN Administration-Consumer Authorization	Shall	Capture any change in an individual's consent to sharing his/her data.	Security-Authorization	Edge	N/A	Infrastructure	No Reference	Individuals must be permitted to change their consent status at any time, where applicable.								1.2	3.6	4.4
248	1	ACN-07.2.3	NHIN Administration-Consumer Authorization	Shall	Allow only authorized access to an individual's data based on their consent status.	Security-Authorization	Edge	N/A	Infrastructure	No Reference	As an individual's consent status changes, so do the access control around their data, where applicable.								1.2	3.6	4.4
250	1	ACN-07.2.5	NHIN Administration-Consumer Authorization	Shall	Display the consent status.	Security-Authorization	Edge	N/A	Infrastructure	No Reference	The consent status must be displayed to all users accessing information associated with an individual.								1.2	3.6	4.4
758	1	IBM-302-03	NHIN Administration-Consumer Authorization	Shall	Store patient permissions for accessing data	Security-Authorization	Core	IBM-302-01	EHR - Lab	3.1.2.1x	1.2 Patient Authorizes Access								1.2	3.6	4.1
887	1	IBM-308-11	NHIN Administration-Data Stager (IBM)	Shall	Adhere to approved content standards as provided by HITSP when sending request for lab result data to repository	Data Content	Edge		EHR - Lab	3.6.y.2	2.2 Clinician Requests Historical Results from Data Repositories								1.2	3.1	4.1
892	1	IBM-308-16	NHIN Administration-Data Stager (IBM)	Should	Include name of the requesting clinician; the HIPAA designated National Provider ID and name of the clinician's affiliated organization, and identifying information for the requesting marketplace as part of the data request transmission when sending request for lab result data to repository	Data Content	Edge		EHR - Lab	3.6.y.3	2.2 Clinician Requests Historical Results from Data Repositories								1.2	3.1	4.1
912	1	IBM-310-06	NHIN Administration-Data Stager (IBM)	Should	Inform requesting clinician that the transmission is incomplete if the stager sends data before all queried data sources respond	Data Content	Edge		EHR - Lab	3.6.y.11	2.4 Data Stager Sends Historical Results								1.2	3.1	4.1
913	1	IBM-310-07	NHIN Administration-Data Stager (IBM)	Shall	Sends the identity of the data source to the requesting clinician if the data stager receives the data from the data source on behalf of the clinician	Data Content	Edge		EHR - Lab	3.6.y.12	2.4 Data Stager Sends Historical Results								1.2	3.1	4.1
914	1	IBM-310-08	NHIN Administration-Data Stager (IBM)	Shall	Transmit messages for failed searches to the requesting clinician if the data stager receives the data from the data source on behalf of the clinician	Data Content	Edge		EHR - Lab	3.6.y.13	2.4 Data Stager Sends Historical Results								1.2	3.1	4.1
908	1	IBM-310-02	NHIN Administration-Data Stager (IBM)	Shall	Acknowledge receipt of lab results from data repository	Data Content-Data Quality/Data Integrity	Edge		EHR - Lab	3.6.y.8	2.4 Data Stager Sends Historical Results								1.2	3.1	4.1
911	1	IBM-310-05	NHIN Administration-Data Stager (IBM)	Shall	Hold and aggregate data or error messages received from the data repository as determined by the community. If the data stager receives the data from the data source on behalf of the clinician, the data stager may: 1) hold and aggregate data from each data source and transmit to clinician when all queried data sources have responded to the request 2) hold data received until a time limit specified by the marketplace has been met, sending the remaining response as they are received 3) immediately send data as it is received from each data source of data from each queried data source.	Data Storage-Transient Data	Edge		EHR - Lab	3.6.y.10	2.4 Data Stager Sends Historical Results								1.2	3.3	4.1
886	1	IBM-308-10	NHIN Administration-Data Stager (IBM)	Shall	Transmit request for lab data repository on behalf of the clinician	Data Transaction-(Pull)	Edge	IBM-309-11	EHR - Lab	3.6.y.1	2.2 Clinician Requests Historical Results from Data Repositories								1.2	3.2	4.1
907	1	IBM-310-01	NHIN Administration-Data Stager (IBM)	Shall	Receive requested lab results form data repository if acting on behalf of the requesting clinician	Data Transaction-(Pull)	Edge	IBM-308-10; IBM-309-11	EHR - Lab	3.6.y.7	2.4 Data Stager Sends Historical Results								1.2	3.2	4.1
910	1	IBM-310-04	NHIN Administration-Data Stager (IBM)	Shall	Conform to approved, vocabulary, structure, privacy, security and messaging standards as provided by HITSP when transmitting patient data	Data Transaction-(Pull)	Edge		EHR - Lab	3.6.y.4	2.4 Data Stager Sends Historical Results								1.2	3.2	4.1
909	1	IBM-310-03	NHIN Administration-Data Stager (IBM)	Shall	Log interaction with data repository related to receiving results	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.6.y.9	2.4 Data Stager Sends Historical Results								1.2	3.2	4.1
915	1	IBM-310-09	NHIN Administration-Data Stager (IBM)	Shall	Log interaction with clinician related to transmitting results	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.6.y.14	2.4 Data Stager Sends Historical Results								1.2	3.2	4.1
1010	1	IBM-319-37	NHIN Administration-Data Stager (IBM)	Shall	Create audit entry for each transaction	Data Transaction-Audit & Logging	Core		EHR - Lab	3.6.x.1	3.7 Maintain and Access Audit Log								1.2	3.2	4.1

ID-ONC	#	ID	Entities	Entity – Property Relation	Property	Functional Categories	Entity Role (i.e., Core or Edge)	Link to other requirements	Principal Context	Context Reference	Comments / Rationale	Closely resembles…	Associated Reference 1	Associated Reference 2	Associated Reference 3	Associated Reference 4	Associated Reference 5	Initial Review Comments	Tentative Entity Breakout Session No.	Tentative Functional Category Breakout Session No.	Tentative Use Case Breakout Session No.
1012	1	IBM-319-39	NHIN Administration-Data Stager (IBM)	Shall	Include audit content as recommended by HITSP standards or as determined by the marketplace if no standards are available	Data Transaction-Audit & Logging	Core		EHR - Lab	3.6.x.2	3.7 Maintain and Access Audit Log								1.2	3.2	4.1
1014	1	IBM-319-41	NHIN Administration-Data Stager (IBM)	Shall	Format audit content as recommended by HITSP standards or as determined by the marketplace if no standards are available	Data Transaction-Audit & Logging	Core		EHR - Lab	3.6.x.3	3.7 Maintain and Access Audit Log								1.2	3.2	4.1
1016	1	IBM-319-43	NHIN Administration-Data Stager (IBM)	Shall	Not allow edits to audit entries	Data Transaction-Audit & Logging	Core		EHR - Lab	3.6.x.4	3.7 Maintain and Access Audit Log								1.2	3.2	4.1
1018	1	IBM-319-45	NHIN Administration-Data Stager (IBM)	Shall	Store audit entry for amount of time determined by law, accrediting agencies, marketplace and entity	Data Transaction-Audit & Logging	Core		EHR - Lab	3.6.x.6	3.7 Maintain and Access Audit Log								1.2	3.2	4.1
1020	1	IBM-319-47	NHIN Administration-Data Stager (IBM)	Shall	Provide capability to print audit trail	Data Transaction-Audit & Logging	Core		EHR - Lab	3.6.x.6	3.7 Maintain and Access Audit Log								1.2	3.2	4.1
1022	1	IBM-319-49	NHIN Administration-Data Stager (IBM)	Shall	Display audit trail only to those authorized to view the audit trail	Data Transaction-Audit & Logging	Core		EHR - Lab	3.6.x.7	3.7 Maintain and Access Audit Log								1.2	3.2	4.1
885	1	IBM-308-09	NHIN Administration-Data Stager (IBM)	Shall	Authenticate to data repository if submitting request for lab results on behalf of clinician	Security-Authentication	Edge		EHR - Lab	3.6.y.5	2.2 Clinician Requests Historical Results from Data Repositories. The Data Stager is middleware that provides for transient staging of results data. The data stager is an optional entity that may be provided by a marketplace to accumulate results from multiple locations to satisfy a clinician's request. The data stager sends the results to the clinician when all locations have responded to the request or when a designated time limit is met.								1.2	3.6	4.1
1028	1	NGIT-002	NHIN Administration-Organization Registration	Shall	Support the specification of level of participation of an organization (entity) with the NHIN	???-Configuration (NGIT)	Core		Infrastructure		A NHIN component shall describe the level of participation shall include the type of data supported by the entity.								1.2		4.4
127	1	ACN-05.2	NHIN Administration-Organization Registration	Shall	Maintain a unique organizational identifier for each participating edge system and provider organization.	Information Location-Identity/Information Correlation	Core	N/A	Infrastructure	No Reference	Participating edge systems and provider organizations should have a unique organizational identifier in order to uniquely identify the edge system and provider organization.								1.2	3.4	4.4
128	1	ACN-05.2.1	NHIN Administration-Organization Registration	Shall	Maintain a list of certified members.	Information Location-Identity/Information Correlation	Core	N/A	Infrastructure	No Reference	The NHIN must maintain a list of all members that have passed the certification process.								1.2	3.4	4.4
129	1	ACN-05.2.1.1	NHIN Administration-Organization Registration	Shall	Create new organization identifiers.	Information Location-Identity/Information Correlation	Core	N/A	Infrastructure	No Reference	The NHIN must be able to add new organizations to the network.								1.2	3.4	4.4
130	1	ACN-05.2.1.2	NHIN Administration-Organization Registration	Shall	Update organization identifiers.	Information Location-Identity/Information Correlation	Core	N/A	Infrastructure	No Reference	The NHIN must be able to update the information related to member organizations.								1.2	3.4	4.4
131	1	ACN-05.2.1.3	NHIN Administration-Organization Registration	Shall	Inactivate organization identifiers.	Information Location-Identity/Information Correlation	Core	N/A	Infrastructure	No Reference	The NHIN must have a mechanism for inactivating member organizations.								1.2	3.4	4.4
125	1	ACN-05.1.2.1	NHIN Administration-Organization Registration	Shall	Accept data only from certified members.	Security-Authentication	Core	N/A	Infrastructure	No Reference	Only authorized members can send and access data from the system.								1.2	3.6	4.4
1027	1	NGIT-001	NHIN Administration-Organization Registration	Shall	Support the definition of organizations (entities) connecting to a NHIN	Security-Authentication	Core		Infrastructure										1.2	3.6	4.4
513	1	IBM-102-01	NHIN Administration-Organization Registration	Shall	Register all public health agencies that are authorized to receive biosurveillance data from the CDOs	Security-Authorization	Edge	IBM-104-01	Biosurveillance	1.1.1.0	2.1 Individual CDOs - Register Authorized PH Agencies	IBM-103-01	IBM-103-01 NHIN Administration-Organization Registration Shall Register all public health agencies that are authorized to receive biosurveillance data from the CDOs						1.2	3.6	4.2
1029	1	NGIT-003	NHIN Administration-System Registration	Shall	Support physical communication configuration for an organization (entity)	???-Configuration (NGIT)	Core		Infrastructure		Configuration parameters will include the harmonized methods for communicating and authenticating between systems.								1.2		4.4
282	1	ACN-07.3.2	NHIN Administration-System Registration	Shall	Provide an appropriate Edge System registration capability before access to the NHIN is granted.	Security-Authorization	Core	N/A	Infrastructure	No Reference	A consistent, formal registration process must occur to ensure only authorized systems are permitted to interface with the NHIN and that they attest to their compliance with the established baseline of Edge System minimum security and privacy controls.								1.2	3.6	4.4
283	1	ACN-07.3.3	NHIN Administration-System Registration	Shall	Provide an appropriate Edge System certification capability before access to the NHIN is granted.	Security-Authorization	Core	N/A	Infrastructure	No Reference	N/A								1.2	3.6	4.4
295	1	ACN-07.4	NHIN Administration-System Registration	Shall	Register all internal systems that require access to the NHIN.	Security-Authorization	Edge	N/A	Infrastructure	No Reference	A consistent, formal registration process must occur to ensure only authorized systems are permitted to interface with the NHIN and that they attest to their compliance with the established baseline of Edge System minimum security and privacy controls.								1.2	3.6	4.4
932	1	IBM-313-01	NHIN Administration-User Registration	Should	Store provider preferences to automatically receive new lab result events in EHR when provider is ordering clinician	Data Transformation-Data Filtering	Core		EHR - Lab	3.x.1.1	3.1 Administrative								1.2	3.3	4.1
933	1	IBM-313-02	NHIN Administration-User Registration	Should	Store provider preferences to automatically receive new lab result events into EHR when provider is not the ordering clinician	Data Transformation-Data Filtering	Core		EHR - Lab	3.x.1.2	3.1 Administrative								1.2	3.3	4.1
934	1	IBM-313-03	NHIN Administration-User Registration	Should	Store provider preferences to automatically receive notification of new lab result events into EHR or Web application when provider is ordering clinician	Data Transformation-Data Filtering	Core		EHR - Lab	3.x.1.3	3.1 Administrative								1.2	3.3	4.1
935	1	IBM-313-04	NHIN Administration-User Registration	Should	Store provider preferences to automatically receive notification of new lab result events into EHR or Web application when provider is not ordering clinician	Data Transformation-Data Filtering	Core		EHR - Lab	3.x.1.4	3.1 Administrative								1.2	3.3	4.1
167	1	ACN-07.11.10	NHIN Administration-User Registration	Shall	Create new NHIN user roles where there is a business requirement for the new role.	Security-Authorization	Core	N/A	Infrastructure	No Reference	N/A								1.2	3.6	4.4
280	1	ACN-07.3	NHIN Administration-User Registration	Shall	Register NHIN users and Edge Systems that require access to the NHIN.	Security-Authorization	Core	N/A	Bio	No Reference	A registration process must occur to ensure the identity and authorized capabilities of NHIN system users and Edge Systems.								1.2	3.6	4.2
281	1	ACN-07.3.1	NHIN Administration-User Registration	Shall	Provide an appropriate NHIN user registration capability before access to the NHIN is granted.	Security-Authorization	Core	N/A	Bio	No Reference	A consistent, formal registration process must occur to ensure the identity and associated authorized capabilities of NHIN system users. NHIN system users are, but not limited to, Public Health Officials, NHIN Administrators, Security Administrator and ONC Super Administrators for which capability expectations are defined below. It is necessary to ensure that an individual's role define the type of system access he/she is granted.								1.2	3.6	4.2
898	1	IBM-309-06	NHIN Administration-User Registration	Shall	Store non-ordering clinician credentials relative to sensitivity restrictions	Security-Authorization	Edge		EHR - Lab	3.4.3.3x	2.3 Data Repository Sends Historical Results Data								1.2	3.6	4.1
99	1	ACN-04.1	NHIN Administration-User Registration	Shall	Register patients to participate in the NHIN.	Security-Credentialing	Edge	N/A	Infrastructure	No Reference	The NHIN must track patient identity and consent.								1.2	3.6	4.4
107	1	ACN-04.2	NHIN Administration-User Registration	Shall	Register providers to participate in the NHIN.	Security-Credentialing	Edge	N/A	CE, EHR	3.1.2	The NHIN should support a provider registry.								1.2	3.6	4.4
108	1	ACN-04.3	NHIN Administration-User Registration	Shall	Register public health users to participate in the NHIN.	Security-Credentialing	Core	N/A	Biosurveillance	No Reference	Federal public health users must be registered to access population health data at the national level.								1.2	3.6	4.2
109	1	ACN-04.4	NHIN Administration-User Registration	Shall	Register public health users to participate in the NHIN.	Security-Credentialing	Edge	N/A	Biosurveillance	No Reference	State and local public health users must be registered to access population health data.								1.2	3.6	4.2
110	1	ACN-04.5	NHIN Administration-User Registration	Shall	Register system administrators to participate in the NHIN.	Security-Credentialing	Edge	N/A	Infrastructure	No Reference	There must be a system administrator role at the edge systems. This individual would have access to performance and maintenance functions.								1.2	3.6	4.4
111	1	ACN-04.6	NHIN Administration-User Registration	Shall	Register system administrators to participate in the NHIN.	Security-Credentialing	Core	N/A	Infrastructure	No Reference	There must be a system administrator role at the NHIN level. This individual would have access to performance and maintenance functions.								1.2	3.6	4.4
493	1	CSC-SEC-250	NHIN Administration-User Registration	Shall	Maintain the identities of its Users, according to a written and approved security policy.	Security-Credentialing	Edge		Infrastructure										1.2	3.6	4.4
510	1	IBM-101-11	NHIN Administration-Utilization Reporting System (IBM)	Shall	Provide institution data as specified in the Biosurveillance use case. Institution data includes hospital system, main facility ID/name, physical facility address, and total number of beds in institution.	Data Content-Data Source	Edge		Biosurveillance	1.1.1.0X	1.3 Data Source - CDO Utilization Reporting System. Note: Strongly recommend employing a Web portal provided by state-level Public Health Departments (e.g., NC's SMARTT system) as the only viable approach to ensure timely and standards compliant collection of utilization statistics.								1.2	3.1	4.2
511	1	IBM-101-12	NHIN Administration-Utilization Reporting System (IBM)	Shall	Provide unit-level census data as specified in the Biosurveillance use case. Unit-level census data includes: unit name, number of patients by unit, number of beds available by unit, and emergency room triage marginal capacity as a percentage and head-count.	Data Content-Data Source	Edge		Biosurveillance	1.1.1.0X	1.3 Data Source - CDO Utilization Reporting System. Note: Recommend also tracking number of staffed beds in addition to number of available beds.								1.2	3.1	4.2
512	1	IBM-101-13	NHIN Administration-Utilization Reporting System (IBM)	Shall	Provide facility utilization data as specified in the Biosurveillance use case. Facility utilization data includes: admissions in last 24 hours at institution, discharges in last 24 hours at institution, deaths in last 24 hours at institution, date and time of report.	Data Content-Data Source	Edge		Biosurveillance	1.1.1.0X	1.3 Data Source - CDO Utilization Reporting System								1.2	3.1	4.2

ID-ONC	#	ID	Entities	Entity – Property Relation	Property	Functional Categories	Entity Role (i.e., Core or Edge)	Link to other requirements	Principal Context	Context Reference	Comments / Rationale	Closely resembles…	Associated Reference 1	Associated Reference 2	Associated Reference 3	Associated Reference 4	Associated Reference 5	Initial Review Comments	Tentative Entity Breakout Session No.	Tentative Functional Category Breakout Session No.	Tentative Use Case Breakout Session No.
565	1	IBM-106-10	NHIN Administration-Utilization Reporting System (IBM)	Shall	Provide additional/revised resource utilization data (institution data, unit level census data and facility utilization) to monitor a previously detected event	Data Content-Data Source	Edge		Biosurveillance	1.z.2.10	6.5 PH Community - Monitor Detected Event - Additional CDO Data								1.2	3.1	4.2
155	1	ACN-07	NHIN Overarching (ACN)	Shall	Provide appropriate security and privacy processes to protect healthcare data.	Data Content-Data Quality/Data Integrity	Core	N/A	Infrastructure	No Reference	N/A									3.1	4.4
132	1	ACN-06	NHIN Overarching (ACN)	Shall	Generate reports and derive insights from healthcare data	Data Content-Data Usage	Core	N/A	Bio	No Reference	Data should be easily manipulated into reports for analysis. The reports should be easily consumable by users. Please note that in addition to biosurveillance, this data can support clinical research, drug safety monitoring, and other health care processes.									3.1	4.2
197	1	ACN-07.16	NHIN Overarching (ACN)	Shall	Log system and user interactions.	Data Transaction-Audit & Logging	Core	N/A	Infrastructure	No Reference	N/A									3.2	4.4
272	1	ACN-07.24	NHIN Overarching (ACN)	Shall	Conduct regular risk assessments.	Data Transaction-Audit & Logging	Core	N/A	Infrastructure	No Reference	Conduct regular risk assessments including but not limited to vulnerability scans, penetration testing, application testing, social engineering and policy compliance.									3.2	4.4
1	1	ACN-01	NHIN Overarching (ACN)	Shall	Support at least a minimum set of functionality for participants.	Data Transaction-Data Access and Update	Edge	N/A	Infrastructure	No Reference	N/A									3.2	4.4
17	1	ACN-02	NHIN Overarching (ACN)	Shall	Facilitate the exchange of accurate and reliable health information.	Information Location-Identity/Information Correlation	Core	N/A	Infrastructure	No Reference	The NHIN should manage communication and exchanges of accurate and reliable health information between edge systems and the NHIN.									3.4	4.4
124	1	ACN-05.1.2	NHIN Overarching (ACN)	Shall	Ensure that data integrity is maintained.	Non-Functional-Accuracy	Core	N/A	Infrastructure	No Reference	N/A									3.5	4.4
115	1	ACN-05	NHIN Overarching (ACN)	Shall	Enforce membership rules for edge systems.	Non-Functional-Business Rules	Core	N/A	Infrastructure	No Reference	In order to participate, edge systems must agree to an expected level of behavior.									3.5	4.4
232	1	ACN-07.18	NHIN Overarching (ACN)	Shall	Implement security best practices at all levels in the NHIN environment.	Non-Functional-Robustness	Core	N/A	Infrastructure	No Reference	Implement security best practices for configuration across infrastructure, operating systems and applications including but not limited to contingency planning, patch management, intrusion detection and prevention.									3.5	4.4
233	1	ACN-07.18.1	NHIN Overarching (ACN)	Shall	Ensure that only required components are enabled/activated for NHIN infrastructure.	Non-Functional-Robustness	Core	N/A	Infrastructure	No Reference	Only required access control lists, accounts and services are enabled; all others are disabled or deactivated.	ACN-07.18.2 ACN-07.18.3	ACN-07.18.2 NHIN Overarching (ACN) Shall Ensure that only required components are enabled/activated for NHIN operating systems.	ACN-07.18.3 NHIN Overarching (ACN) Shall Ensure that only required components are enabled/activated for NHIN applications.						3.5	4.4
236	1	ACN-07.18.4	NHIN Overarching (ACN)	Shall	Enforce compliance with an established password policy.	Non-Functional-Robustness	Core	N/A	Infrastructure	No Reference	All user, system and application (service) accounts must require strong passwords, including but not limited to length, complexity, and lifecycle (history, age, change, expiration).									3.5	4.4
237	1	ACN-07.18.5	NHIN Overarching (ACN)	Shall	Ensure that the system is protected against the introduction of malware into the environment.	Non-Functional-Robustness	Core	N/A	Infrastructure	No Reference	Malware detection, prevention and remediation capabilities must exist across the NHIN environment, including but not limited to the infrastructure, system and application layers.									3.5	4.4
238	1	ACN-07.18.6	NHIN Overarching (ACN)	Shall	Ensure that only required application functionalities are enabled/activated.	Non-Functional-Robustness	Core	N/A	Infrastructure	No Reference	Only application functionalities required to support NHIN services should be enabled; all others should be disabled or deactivated.									3.5	4.4
239	1	ACN-07.18.7	NHIN Overarching (ACN)	Shall	Limit functionality that can be accessed remotely.	Non-Functional-Robustness	Core	N/A	Infrastructure	No Reference	Certain privileged functions can not be executed from a remote session.									3.5	4.4
240	1	ACN-07.18.8	NHIN Overarching (ACN)	Shall	Ensure that data is transmitted securely between system endpoints.	Non-Functional-Robustness	Core	N/A	Infrastructure	No Reference	Communications between systems must be protected against interception or modification with controls, including but not limited to encryption, data integrity checking and acknowledgement.									3.5	4.4
241	1	ACN-07.18.9	NHIN Overarching (ACN)	Shall	Secure all hardware against damage and unauthorized modification.	Non-Functional-Robustness	Core	N/A	Infrastructure	No Reference	Dedicated enclosures should be used to restrict access to hardware to authorized users. Data center facilities must offer protections, including but not limited to, UPS, humidity, temperature, flood, fire and natural disasters.									3.5	4.4
242	1	ACN-07.19	NHIN Overarching (ACN)	Shall	Ensure that controls are applied to prevent unauthorized access to the network.	Non-Functional-Robustness	Core	N/A	Infrastructure	No Reference	Only trusted components may obtain access to the network.									3.5	4.4
243	1	ACN-07.19.1	NHIN Overarching (ACN)	Shall	Ensure that controls are applied to prevent unauthorized traffic from entering the network.	Non-Functional-Robustness	Core	N/A	Infrastructure	No Reference	Devices, including but not limited to firewalls, routers, and switches, are installed on the network to allow only authorized traffic.									3.5	4.4
244	1	ACN-07.19.2	NHIN Overarching (ACN)	Shall	Segregate the network by environments, including but not limited to development, testing and production.	Non-Functional-Robustness	Core	N/A	Infrastructure	No Reference	N/A									3.5	4.4
73	1	ACN-02.6	NHIN Overarching (ACN)	Shall	Process and communicate data to scale as edge systems grow over time.	Non-Functional-Scalability	Core	N/A	Infrastructure	No Reference	It is important that the NHIN support future growth, in terms of both numbers of systems and numbers of transactions.										4.4
302	1	ACN-07.7	NHIN Overarching (ACN)	Shall	Provide a mechanism for ensuring non-repudiation.	Security-Authentication	Core	N/A	Infrastructure	No Reference	The NHIN must provide non-repudiation (e.g. electronic signatures) for output that requires verification, including but not limited to biosurveillance alerting, and prescription issuance.									3.6	4.4
303	1	ACN-07.8	NHIN Overarching (ACN)	Shall	Provide a secure and robust system authentication mechanism.	Security-Authentication	Core	N/A	Infrastructure	No Reference	The NHIN must support multiple authentication mechanisms including but not limited to system name/password, X509 or other standard certificate and smart card.									3.6	4.4
304	1	ACN-07.8.1	NHIN Overarching (ACN)	Shall	Authenticate all systems before connection to the NHIN is allowed.	Security-Authentication	Core	N/A	Infrastructure	No Reference	Each user should be given a unique identifier so that it is possible to attribute a system action to one specific individual.									3.6	4.4
305	1	ACN-07.8.2	NHIN Overarching (ACN)	Shall	Enforce mutual authentication between the NHIN and any Edge System.	Security-Authentication	Core	N/A	Infrastructure	No Reference	To ensure a Trusted Environment, both the sender and receiver organization must be mutually assured of each other's identity.									3.6	4.4
306	1	ACN-07.8.3	NHIN Overarching (ACN)	Shall	Protect system authentication credentials during transmission between Edge Systems and the NHIN.	Security-Authentication	Core	N/A	Infrastructure	No Reference	N/A									3.6	4.4
165	1	ACN-07.11	NHIN Overarching (ACN)	Shall	Control NHIN user access through structured Role Based Access Control (RBAC).	Security-Authorization	Core	N/A	Infrastructure	No Reference	RBAC must be used to assign and manage access privileges for all NHIN users.									3.6	4.4
166	1	ACN-07.11.1	NHIN Overarching (ACN)	Shall	Implement a RBAC model which is scalable and flexible.	Security-Authorization	Core	N/A	Infrastructure	No Reference	RBAC model must be able to support large scale user expansion and varying types of access privileges.									3.6	4.4
296	1	ACN-07.5	NHIN Overarching (ACN)	Shall	Certify that all internal systems meet NHIN security requirements for NHIN connectivity.	Security-Authorization	Edge	N/A	Infrastructure	No Reference	Self-certification statement must be signed before connection to the NHIN is allowed.									3.6	4.4
251	1	ACN-07.20	NHIN Overarching (ACN)	Shall	Comply with accepted security policy, privacy and management standards.	Security-Confidentiality	Core	N/A	Infrastructure	No Reference	Security management standards and best practices issued by recognized security standards organizations should be implemented.									3.6	4.4
252	1	ACN-07.20.1	NHIN Overarching (ACN)	Shall	Ensure that system complies with data privacy standards.	Security-Confidentiality	Core	N/A	Infrastructure	No Reference	N/A									3.6	4.4
253	1	ACN-07.20.2	NHIN Overarching (ACN)	Shall	Ensure that system complies with HIPAA legislation.	Security-Confidentiality	Core	N/A	Infrastructure	No Reference	Federal privacy and security requirements outlined in HIPAA should be implemented.									3.6	4.4
254	1	ACN-07.20.3	NHIN Overarching (ACN)	Shall	Ensure that system complies with applicable federal, state and local legislation.	Security-Confidentiality	Core	N/A	Infrastructure	No Reference	Federal, state and local privacy, security, retention, disclosure and any other relevant requirements outlined in applicable legislation must be implemented.									3.6	4.4
1132	1	NGIT-157	Payer Systems	May	Electronically collect demographic and clinical data for public health reporting	Data Storage-Persistent Data Storage	Edge		Bio		Collect data as specified by PHA requirements (limited demographics, clinical, orders (labs/rads), results)									3.3	4.2
1134	1	NGIT-159	Payer Systems	May	Transmit data to support public health biosurveillance	Data Transaction-(Push)	Edge		Bio		Data on patient-clinician encounters will be provided to a network communicating with public health agencies per agreement between entities. Agreements shall specify the role a CDO NHIN interface performs regarding the filtering, aggregation, anonymization, and routing of data.									3.2	4.2
1125	1	NGIT-150	Payer Systems	Shall	Authenticate user requesting data	Security-Authentication	Edge													3.6	4.4
1110	1	NGIT-131	Portal NHIN Interface (NGIT)	Shall	Maintain a log of interactions with external data systems	Data Transaction-Audit & Logging	Core		EHR - Lab	3.2.4.6	Log must include history of data requests and transactions provided through external user interface.									3.2	4.1
780	1	IBM-304-14	Repositories	Shall	Adhere to approved content standards as provided by HITSP when sending information about lab result location to record locator.	Data Content	Edge		EHR - Lab	3.4.2.2x	1.4 Data Repository Processes New Results	IBM-303-05 IBM-303-06 CSC-ALL-60	IBM-303-05 CDO-LIS Shall Adhere to approved content standards as provided by HITSP when sending lab results data to the repository.	IBM-303-06 CDO-LIS Shall Conform to approved vocabulary, structure, privacy, security and messaging standards as provided by HITSP when transmitting patient data.	CSC-ALL-60 All Edge Systems (CSC) Shall Transmit well formed messages according to a HITSP specified implementation instruction, when communicating with the NHIN Interface.				1.5	3.1	4.1
904	1	IBM-309-12	Repositories	Shall	Conform to approved vocabulary, structure and messaging standards as provided by HITSP when transmitting lab result event data to EHRs	Data Content	Edge		EHR - Lab	3.4.3.4x	2.3 Data Repository Sends Historical Results Data								1.5	3.1	4.1
342	1	CSC-ALL-680	Repositories	Shall	Receive and validate the query request	Data Content-Data Quality/Data Integrity	Edge		Infrastructure										1.5	3.1	4.4
437	1	CSC-EHR-390	Repositories	Should	Receive, acknowledge receipt, validate formats, and store or merge lab test results submitted to them, along with any supplied allowed or excluded provider lists.	Data Content-Data Quality/Data Integrity	Edge		EHR - Lab	3.4.1.0, 3.4.1.2, 3.4.1.3, 3.4.1.4, 3.5.1.3									1.5	3.1	4.1

ID-ONC	#	ID	Entities	Entity – Property Relation	Property	Functional Categories	Entity Role (i.e., Core or Edge)	Link to other requirements	Principal Context	Context Reference	Comments / Rationale	Closely resembles...	Associated Reference 1	Associated Reference 2	Associated Reference 3	Associated Reference 4	Associated Reference 5	Initial Review Comments	Tentative Entity Breakout Session No.	Tentative Functional Category Breakout Session No.	Tentative Use Case Breakout Session No.
768	1	IBM-304-02	Repositories	Should	Take proper action when lab results updates are sent (e.g. error correction, completeness, etc.) from the performing lab	Data Content-Data Quality/Data Integrity	Edge		EHR - Lab	3.4.1.1	1.4. Data Repository Processes New Results								1.5	3.1	4.1
770	1	IBM-304-04	Repositories	Shall	Verify integrity and completeness of new lab result events message contents	Data Content-Data Quality/Data Integrity	Edge		EHR - Lab	3.4.1.2	1.4 Data Repository Processes New Results								1.5	3.1	4.1
771	1	IBM-304-05	Repositories	Shall	Send error message if lab authenticity is not verified	Data Content-Data Quality/Data Integrity	Edge		EHR - Lab	3.4.1.2x	1.4 Data Repository Processes New Results								Send 1.5	3.1	4.1
772	1	IBM-304-06	Repositories	Shall	Send error message if content is not verified for new lab result message	Data Content-Data Quality/Data Integrity	Edge		EHR - Lab	3.4.1.2x	1.4 Data Repository Processes New Results								1.5	3.1	4.1
773	1	IBM-304-07	Repositories	Shall	Send acknowledgement message to sending lab for successful send of new lab result message	Data Content-Data Quality/Data Integrity	Edge		EHR - Lab	3.4.1.3	1.4 Data Repository Processes New Results								1.5	3.1	4.1
774	1	IBM-304-08	Repositories	Shall	Log receipt of new lab results event message from the performing lab	Data Content-Data Quality/Data Integrity	Edge		EHR - Lab	3.4.1.6	1.4 Data Repository Processes New Results								1.5	3.1	4.1
782	1	IBM-304-16	Repositories	Shall	Receive acknowledgement of successful transmission of new lab result event location message from locator service	Data Content-Data Quality/Data Integrity	Edge		EHR - Lab	3.4.1.2x	1.4 Data Repository Processes New Results								1.5	3.1	4.1
783	1	IBM-304-17	Repositories	Shall	Receive error messages form locator service if authenticity of repository or content of new lab result event location message not validated	Data Content-Data Quality/Data Integrity	Edge	IBM-305-04	EHR - Lab	3.4.1.2x	1.4 Data Repository Processes New Results								1.5	3.1	4.1
893	1	IBM-309-01	Repositories	Shall	Receive, parse and validate the lab results data query request	Data Content-Data Quality/Data Integrity	Edge	IBM-308-01; IBM-307-01	EHR - Lab	3.4.3.1	2.3 Data Repository Sends Historical Results Data								1.5	3.1	4.1
894	1	IBM-309-02	Repositories	Shall	Send acknowledgement to clinician or data stager regarding received data query request	Data Content-Data Quality/Data Integrity	Edge		EHR - Lab	3.4.3.1	2.3 Data Repository Sends Historical Results Data								1.5	3.1	4.1
112	1	ACN-04.7	Repositories	Shall	Store core clinical patient data.	Data Content-Data Source	Edge	N/A	Infrastructure	No Reference	Core clinical data should be stored in edge systems rather than at the NHIN level.								1.5	3.1	4.4
361	1	CSC-ALL-945	Repositories	Shall	Accept and apply various filters as part of an incoming query, for example results for a specific Lab order number.	Data Content-Data Source	Edge	CSC-ALL-930	Infrastructure										1.5	3.1	4.4
936	1	IBM-314-01	Repositories	Shall	Store multiple types of clinical data (Lab, Rx, diagnostic, procedure reports, genomic data, patient teaching, clinical progress notes, etc)	Data Storage-Persistent Data Storage	Edge		EHR - Lab	3.4.y.1	3.2 Data Storage	IBM-304-09	IBM-304-09 Repositories Shall Store lab test results in data repository and note restrictions for use (providers of care list, patient consent restrictions or sensitivity restrictions)						1.5	3.3	4.1
937	1	IBM-314-02	Repositories	Shall	Store data from multiple types of media (video, audio, still images, unstructured text, coded data)	Data Storage-Persistent Data Storage	Edge		EHR - Lab	3.4.y.2	3.2 Data Storage								1.5	3.3	4.1
938	1	IBM-314-03	Repositories	Should	Store all data using standard format and vocabulary	Data Storage-Persistent Data Storage	Edge		EHR - Lab	3.4.y.3	3.2 Data Storage								1.5	3.3	4.1
939	1	IBM-314-04	Repositories	Should	Store, maintain and have capability to retrieve minimum set of data for lifetime of patient	Data Storage-Persistent Data Storage	Edge		EHR - Lab	3.4.y.4	3.2 Data Storage								1.5	3.3	4.1
940	1	IBM-314-05	Repositories	Shall	Store, maintain and have capability to retrieve data for amount of time required by law (Federal, state, local)	Data Storage-Persistent Data Storage	Edge		EHR - Lab	3.4.y.5	3.2 Data Storage								1.5	3.3	4.1
942	1	IBM-314-07	Repositories	Should	Provide ability to configure amount of time for data storage for each data type	Data Storage-Persistent Data Storage	Edge		EHR - Lab	3.4.y.7	3.2 Data Storage	IBM-103-01	IBM-103-01 NHIN Administration-Organization Registration Shall Register all public health agencies that are authorized to receive biosurveillance data from the CDOs						1.5	3.3	4.1
337	1	CSC-ALL-600	Repositories	May	Use the identity of the querying organization and originator in determining which records it will return, based on its own policies.	Data Transaction-(Pull)	Edge		Infrastructure										1.5	3.2	4.4
339	1	CSC-ALL-650	Repositories	May	Accept queries for clinical data, from authorized providers of care	Data Transaction-(Pull)	Edge		Infrastructure		Holder of data determines access control policies								1.5	3.2	4.4
340	1	CSC-ALL-660	Repositories	Should	Return clinical data in response to authorized queries.	Data Transaction-(Pull)	Edge		Infrastructure										1.5	3.2	4.4
446	1	CSC-EHR-470	Repositories	Should	Receive, acknowledge, and validate the format of queries, control access, process queries, and filter and return results.	Data Transaction-(Pull)	Edge		EHR - Lab	3.4.3.0, 3.4.3.1, 3.4.3.3, 3.4.3.4, 3.5.2.3									1.5	3.2	4.1
902	1	IBM-309-10	Repositories	Shall	Transmit lab results requested by an ordering clinician or other authorized provider of care for an identified patient to the requesting entity (clinician or data stager)	Data Transaction-(Pull)	Edge	IBM-304-18	EHR - Lab	3.4.3.4	2.3 Data Repository Sends Historical Results Data								1.5	3.2	4.1
610	1	IBM-205-17	Repositories	Shall	Transmit data according to HITSP standards	Data Transaction-(Push)	Core		Infrastructure	2.2.2.4x	3.2 Pre-populating a PHR	IBM-207-17 IBM-207-16	IBM-207-17 Repositories Shall Transmit data according to HITSP standards	IBM-207-16 Repositories Shall Transmit data according to web-based security standards (SSL, etc.)					1.5	3.2	4.4
700	1	IBM-209-36	Repositories	Shall	Transmit data according to HITSP standards	Data Transaction-(Push)	Edge		CE - Consumer	2.3.2.2x	6.1 Provider access to PHR data	IBM-205-16 IBM-209-35	IBM-205-16 Repositories Shall Transmit data according to web-based security standards (SSL, etc.)	IBM-209-35					1.5	3.2	4.3
767	1	IBM-304-01	Repositories	Shall	Receive new lab test result event messages from the performing lab as well as information necessary for indexing	Data Transaction-(Push)	Edge	IBM-303-04; IBM-303-07; IBM-303-01	EHR - Lab	3.4.1.1	1.4 Data Repository Processes New Results								1.5	3.2	4.1
777	1	IBM-304-11	Repositories	Shall	Securely send lab result event location and related information to locator service	Data Transaction-(Push)	Edge	IBM-305-01	EHR - Lab	3.4.2.2	1.4 Data Repository Processes New Results								1.5	3.2	4.1
784	1	IBM-304-18	Repositories	Shall	Automatically transmit lab test results to EHR of ordering provider (in local or remote marketplace)	Data Transaction-(Push)	Edge	IBM-311-01	EHR - Lab	3.4.1.5	1.4 Data Repository Processes New Results	IBM-304-21	IBM-304-21 Repositories Shall Automatically transmit lab test results to EHR of ordering provider (in local or remote marketplace)						1.5	3.2	4.1
785	1	IBM-304-19	Repositories	Shall	Automatically transmit lab test results to EHR of other providers of care who are not ordering clinician (local or remote marketplace) if appropriate according to sensitivity restrictions and patient consent restrictions	Data Transaction-(Push)	Edge	IBM-311-01; IBM-309-10	EHR - Lab	3.4.1.5	1.4 Data Repository Processes New Results	IBM-304-22	IBM-304-22 Repositories Shall Automatically transmit lab test results to EHR of other providers of care who are not ordering clinician (local or remote marketplace) if appropriate based copy to directions in lab order and provider preferences to receive or not receive results automatically						1.5	3.2	4.1
786	1	IBM-304-20	Repositories	Shall	Transmit lab test results to providers (in local or remote marketplace) in real time as received from performing lab	Data Transaction-(Push)	Edge	IBM-309-10	EHR - Lab	3.4.1.5x1	1.4 Data Repository Processes New Results								1.5	3.2	4.1
789	1	IBM-304-23	Repositories	Shall	Adhere to approved content standards as provided by HITSP when sending lab results data to clinician.	Data Transaction-(Push)	Edge		EHR - Lab	3.4.1.5x	1.4 Data Repository Processes New Results								1.5	3.2	4.1
791	1	IBM-304-25	Repositories	Shall	Conform to approved, vocabulary, structure, privacy, security and messaging standards as provided by HITSP when transmitting patient data.	Data Transaction-(Push)	Edge		EHR - Lab	3.4.1.5x	1.4 Data Repository Processes New Results								1.5	3.2	4.1
943	1	IBM-315-01	Repositories	Should	Transmit all data in standard messaging format using standard vocabulary as recommended by HITSP or as determined by the marketplace if no standards exist	Data Transaction-(Push)	Edge		EHR - Lab	3.4.y.8	3.3 Standards								1.5	3.2	4.1
944	1	IBM-315-02	Repositories	Shall	Transmit minimum data set in standard messaging format and standard vocabulary as recommended by HITSP or as determined by the marketplace if no standards exist	Data Transaction-(Push)	Edge		EHR - Lab	3.4.y.9	3.3. Standards								1.5	3.2	4.1
776	1	IBM-304-10	Repositories	Shall	Log storage of the new lab result events in the data repository	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.4.1.6	1.4 Data Repository Processes New Results								1.5	3.2	4.1
781	1	IBM-304-15	Repositories	Shall	Log interaction with locator system for lab result location message	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.4.2.3	1.4 Data Repository Processes New Results								1.5	3.2	4.1
792	1	IBM-304-26	Repositories	Shall	Log transmission of new lab test result message to provider's EHR	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.4.1.5x1	1.4 Data Repository Processes New Results								1.5	3.2	4.1
906	1	IBM-309-14	Repositories	Shall	Log interaction with clinician or data stager related to processing requests for historical lab results	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.4.3.5	2.3 Data Repository Sends Historical Results Data								1.5	3.2	4.1
981	1	IBM-319-08	Repositories	Shall	Create audit entry for each transaction	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.4.x.1	3.7 Maintain and Access Audit Log								1.5	3.2	4.1
982	1	IBM-319-09	Repositories	Shall	Include audit content as recommended by HITSP standards or as determined by the marketplace if no standards are available	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.4.x.2	3.7 Maintain and Access Audit Log								1.5	3.2	4.1
983	1	IBM-319-10	Repositories	Shall	Format audit content as recommended by HITSP standards or as determined by the marketplace if no standards are available	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.4.x.3	3.7 Maintain and Access Audit Log								1.5	3.2	4.1
984	1	IBM-319-11	Repositories	Shall	Not allow edits to audit entries	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.4.x.4	3.7 Maintain and Access Audit Log								1.5	3.2	4.1
985	1	IBM-319-12	Repositories	Should	Store audit entry for amount of time determined by law, accrediting agencies, marketplace and entity	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.4.x.5	3.7 Maintain and Access Audit Log								1.5	3.2	4.1
986	1	IBM-319-13	Repositories	Shall	Provide Capability to print audit trail	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.4.x.6	3.7 Maintain and Access Audit Log								1.5	3.2	4.1
987	1	IBM-319-14	Repositories	Shall	Display audit trail only to those authorized to view the audit trail	Data Transaction-Audit & Logging	Edge		EHR - Lab	3.4.x.7	3.7 Maintain and Access Audit Log								1.5	3.2	4.1
344	1	CSC-ALL-710	Repositories	May	Accept inserts, updates and deletes to persisted data.	Data Transaction-Data Access and Update	Edge		Infrastructure										1.5	3.2	4.4
341	1	CSC-ALL-670	Repositories	Should	Support various filters for querying data, including filtering on a specific order number.	Data Transformation-Data Filtering	Edge		Infrastructure										1.5	3.3	4.4

ID-ONC	#	ID	Entities	Entity – Property Relation	Property	Functional Categories	Entity Role (i.e., Core or Edge)	Link to other requirements	Principal Context	Context Reference	Comments / Rationale	Closely resembles...	Associated Reference 1	Associated Reference 2	Associated Reference 3	Associated Reference 4	Associated Reference 5	Initial Review Comments	Tentative Entity Breakout Session No.	Tentative Functional Category Breakout Session No.	Tentative Use Case Breakout Session No.
335	1	CSC-ALL-550	Repositories	Should	Exist within a SNO, but are Edge systems and not essential to the NHIN.	Non-Functional-Business Rules	Edge		Infrastructure		Repositories persists data at the edge -- they may be centralized, distributed, or both, within the SNO.								1.5	3.5	4.4
779	1	IBM-304-13	Repositories	Shall	Send lab result event location and related information to locator service in real time as received from lab	Non-Functional-Performance	Edge	IBM-303-04	EHR - Lab	3.4.2.2x	1.4 Data Repository Processes New Results								1.5	3.5	4.1
903	1	IBM-309-11	Repositories	Shall	Transmit lab results requested by a clinician (clinician or data stager) within 5 seconds of successful receipt of request	Non-Functional-Performance	Edge	IBM-308-10	EHR - Lab	3.4.3.4x	2.3 Data Repository Sends Historical Results Data NOTE: All following performance requirements are stated in terms of possible peak loads; determining the baseline for peak loads should become part of the certification process.							Feature - Performance	1.5	3.5	4.1
769	1	IBM-304-03	Repositories	Shall	Verify authenticity of lab sending new lab result events	Security-Authentication	Edge		EHR - Lab	3.4.1.2	1.4 Data Repository Processes New Results								1.5	3.6	4.1
778	1	IBM-304-12	Repositories	Shall	Authenticate to locator service when sending lab result event location information	Security-Authentication	Edge		EHR - Lab	3.4.2.1	1.4 Data Repository Processes New Results								1.5	3.6	4.1
895	1	IBM-309-03	Repositories	Shall	Authenticate system sending request for lab data	Security-Authentication	Edge		EHR - Lab	3.4.3.2	2.3 Data Repository Sends Historical Results Data								1.5	3.6	4.1
338	1	CSC-ALL-610	Repositories	Shall	Determine their own access control policies, respecting privacy concerns, sensitivity designations, policy, and/or other attributes	Security-Authorization	Edge		Infrastructure		If query results are being refused for a particular querier, then that querier must make separate arrangements with the holder of the Repository for access to those patient records.								1.5	3.6	4.4
343	1	CSC-ALL-690	Repositories	May	Authorize access based on querying institution, and/or other criteria based on local policies and regulations.	Security-Authorization	Edge		Infrastructure										1.5	3.6	4.4
896	1	IBM-309-04	Repositories	Shall	Authorize release of laboratory test results based on verification as ordering clinician	Security-Authorization	Edge	IBM-307-16	EHR - Lab	3.4.3.3	2.3 Data Repository Sends Historical Results Data								1.5	3.6	4.1
897	1	IBM-309-05	Repositories	Shall	Authorize release of laboratory test results to non-ordering clinicians based on regulations (federal, state, local) regulatory agencies, entity policies, sensitivity restrictions and patient consent restrictions	Security-Authorization	Edge		EHR - Lab	3.4.3.3	2.3 Data Repository Sends Historical Results Data								1.5	3.6	4.1
899	1	IBM-309-07	Repositories	Shall	Confirm non-ordering clinician credentials relative to sensitivity restrictions	Security-Authorization	Edge		EHR - Lab	3.4.3.3x	2.3 Data Repository Sends Historical Results Data								1.5	3.6	4.1
900	1	IBM-309-08	Repositories	Shall	Confirm non-ordering clinician status as provider of care for patient	Security-Authorization	Edge		EHR - Lab	3.4.3.3x	2.3 Data Repository Sends Historical Results Data								1.5	3.6	4.1
901	1	IBM-309-09	Repositories	Shall	Confirm patient consent restrictions	Security-Authorization	Edge		EHR - Lab	3.4.3.3x	2.3 Data Repository Sends Historical Results Data								1.5	3.6	4.1
803	1	IBM-305-10	RLS	Shall	Adhere to approved content standards as provided by HITSP when sending notification of new lab results to clinicians.	Data Content	Core		EHR - Lab	3.5.3.1x2	1.5 Locator Service Processes New Results								2.2	3.1	4.1
804	1	IBM-305-11	RLS	Should	Send notification of new lab result event message that may include: patient identifying information, storing repository identifying information, storing repository marketplace and other content	Data Content	Core		EHR - Lab	3.5.3.1x3	1.5 Locator Service Processes New Results								2.2	3.1	4.1
1120	1	NGIT-145	RLS	Shall	Maintain information on the location of patient data available through network services.	Data Content	Core		Infrastructure		The data to be maintained by record locator services shall minimally include a patient identifier and associated data sources, but may include additional record identifying information such as record type, restrictions on access, date of activity, etc.								2.2	3.1	4.4
796	1	IBM-305-03	RLS	Shall	Verify integrity and completeness of content of new lab result event location message sent from lab data repository	Data Content-Data Quality/Data Integrity	Core		EHR - Lab	3.5.1.2	1.5 Locator Service Processes New Results								2.2	3.1	4.1
797	1	IBM-305-04	RLS	Shall	Send error message to repository if authenticity not validated for repository sending new lab result event location message	Data Content-Data Quality/Data Integrity	Core	IBM-304-17	EHR - Lab	3.5.1.2x	1.5 Locator Service Processes New Results								2.2	3.1	4.1
798	1	IBM-305-05	RLS	Shall	Send error message to repository if content not validated for new lab result event location message	Data Content-Data Quality/Data Integrity	Core		EHR - Lab	3.5.1.2x	1.5 Locator Service Processes New Results								2.2	3.1	4.1
799	1	IBM-305-06	RLS	Shall	Send acknowledgement message to repository for successful transmission of new lab result event location notification message	Data Content-Data Quality/Data Integrity	Core		EHR - Lab	3.5.1.2x	1.5 Locator Service Processes New Results								2.2	3.1	4.1
807	1	IBM-305-14	RLS	Shall	Receive acknowledgement of successful transmission of new lab results availability notification message from clinician EHR or web application	Data Content-Data Quality/Data Integrity	Core	IBM-306-07	EHR - Lab	3.5.3.1x6	1.5 Locator Service Processes New Results								2.2	3.1	4.1
808	1	IBM-305-15	RLS	Should	Receive error messages from clinician EHR or web application if authenticity of record locator or content of new lab result event availability notification message not validated	Data Content-Data Quality/Data Integrity	Core	IBM-306-09	EHR - Lab	3.5.3.1x7	1.5 Locator Service Processes New Results								2.2	3.1	4.1
842	1	IBM-307-22	RLS	Shall	Authenticate to remote marketplace record locator	Data Content-Data Quality/Data Integrity	Core		EHR - Lab	3.5.2.x2	2.1 Clinician Requests Historical Results Location								2.2	3.1	4.1
843	1	IBM-307-23	RLS	Shall	Receive error message from remote marketplace if requesting record locator not authenticated or if content of data location request message is not verified	Data Content-Data Quality/Data Integrity	Core		EHR - Lab	3.5.2.x3	2.1 Clinician Requests Historical Results Location								2.2	3.1	4.1
844	1	IBM-307-24	RLS	Shall	Receive acknowledgement from remote marketplace for data location request message	Data Content-Data Quality/Data Integrity	Core		EHR - Lab	3.5.2.x4	2.1 Clinician Requests Historical Results Location								2.2	3.1	4.1
846	1	IBM-307-26	RLS	Shall	Send error message to remote marketplace if not authenticated or if consent of data locations message is not verified	Data Content-Data Quality/Data Integrity	Core		EHR - Lab	3.5.2.x6	2.1 Clinician Requests Historical Results Location								2.2	3.1	4.1
847	1	IBM-307-27	RLS	Shall	Send acknowledgement to remote marketplace for successful receipt of data location message	Data Content-Data Quality/Data Integrity	Core		EHR - Lab	3.5.2.x7	2.1 Clinician Requests Historical Results Location								2.2	3.1	4.1
439	1	CSC-EHR-410	RLS	Shall	Receive, acknowledge, validate format, and store patient demographic identifying information and updates and record locations.	Data Storage-Persistent Data Storage	Core		EHR - Lab	3.5.1.1, 3.5.1.2									2.2	3.3	4.1
800	1	IBM-305-07	RLS	Shall	Store and index new lab result event location information by appropriate patient and other indices. Other indices are determined by the marketplace	Data Storage-Persistent Data Storage	Core		EHR - Lab	3.5.1.3	1.5 Locator Service Processes New Results								2.2	3.3	4.1
34	1	ACN-02.3	RLS	Shall	Identify the unique patient in the user's request and locate the edge system(s) containing the patient data.	Data Transaction-(Pull)	Core	N/A	CE, EHR	3.2.3	The NHIN should uniquely identify the patient sent in the message and utilize the record locater service determine which edge system contains the patient's data.								2.2	3.2	4.4
841	1	IBM-307-21	RLS	Shall	Query remote marketplace for data locations if clinician has specified to find data in one or more remote marketplaces	Data Transaction-(Pull)	Core		EHR - Lab	3.5.2.x1	2.1 Clinician Requests Historical Results Location								2.2	3.2	4.1
845	1	IBM-307-25	RLS	Shall	Receive data locations from remote marketplace	Data Transaction-(Pull)	Core		EHR - Lab	3.5.2.x5	2.1 Clinician Requests Historical Results Location								2.2	3.2	4.1
849	1	IBM-307-29	RLS	Shall	Send data location information from remote marketplace to authorized requesting clinician	Data Transaction-(Pull)	Core		EHR - Lab	3.5.2.x9	2.1 Clinician Requests Historical Results Location								2.2	3.2	4.1
865	1	IBM-307-45	RLS	Shall	Receive request for lab test results location based on one or more criteria for patient specified query	Data Transaction-(Pull)	Core		EHR - Lab	3.5.2.3a	2.1 Clinician Requests Historical Results Location								2.2	3.2	4.1
866	1	IBM-307-46	RLS	Shall	Send error message to clinician if specified lab results not found	Data Transaction-(Pull)	Core		EHR - Lab	3.5.2.5x	2.1 Clinician Requests Historical Results Location								2.2	3.2	4.1
867	1	IBM-307-47	RLS	Shall	Send one or more result location (links) pointers to authorized clinician for the specified lab test result	Data Transaction-(Pull)	Core	IBM-307-01	EHR - Lab	3.5.2.5	2.1 Clinician Requests Historical Results Location Clinician can use location pointers to retrieve test results								2.2	3.2	4.1
874	1	IBM-307-54	RLS	Shall	Log interaction with clinician	Data Transaction-(Pull)	Core		EHR - Lab	3.5.2.6	2.1 Clinician Requests Historical Results Location								2.2	3.2	4.1
793	1	IBM-304-27	RLS	Shall	Conform to approved, vocabulary, structure, privacy, security and messaging standards as provided by HITSP when transmitting patient data.	Data Transaction-(Push)	Core		EHR - Lab	3.5.x.1	1.4 Data Repository Processes New Results								2.2	3.2	4.1
794	1	IBM-305-01	RLS	Shall	Receive new lab result event (file) location information and related information from lab data repository	Data Transaction-(Push)	Core	IBM-304-11	EHR - Lab	3.5.1.1	1.5 Locator Service Processes New Results ONC Guidance: There is not an assumption of a results registry, although there is the need for providers of care to know about new and existing results.								2.2	3.2	4.1
801	1	IBM-305-08	RLS	Shall	Automatically send notification of new lab test result event availability to clinicians EHR or web application (local or remote marketplace) if appropriate according to sensitivity restrictions and patient consent restrictions	Data Transaction-(Push)	Core	IBM-306-01	EHR - Lab	3.5.3.1x1	1.5 Locator Service Processes New Results The goal for this functionality is that the clinician receive some indication that new results are available.								2.2	3.2	4.1
802	1	IBM-305-09	RLS	Shall	Automatically send notification of new lab test result event availability to clinicians EHR or web application dependent on provider preferences to receive or not receive notification of new lab result events automatically and specifications of lab order message	Data Transaction-(Push)	Core	IBM-306-01	EHR - Lab	3.5.3.1z	1.5 Locator Service Processes New Results								2.2	3.2	4.1
806	1	IBM-305-13	RLS	Shall	Log notifications of new lab result events availability sent to clinicians	Data Transaction-Audit & Logging	Core		EHR - Lab	3.5.3.1x5	1.5 Locator Service Processes New Results								2.2	3.2	4.1
848	1	IBM-307-28	RLS	Shall	Log interaction with remote marketplace	Data Transaction-Audit & Logging	Core		EHR - Lab	3.5.2.x8	2.1 Clinician Requests Historical Results Location	CSC-ALL-310	CSC-ALL-310 RLS May Persist a list of other SNOs that have been queried in the past for information on a patient.						2.2	3.2	4.1
1002	1	IBM-319-29	RLS	Shall	Create audit entry for each transaction	Data Transaction-Audit & Logging	Core		EHR - Lab	3.5.x.1	3.7 Maintain and Access Audit Log								2.2	3.2	4.1

ID-ONC	#	ID	Entities	Entity – Property Relation	Property	Functional Categories	Entity Role (i.e., Core or Edge)	Link to other requirements	Principal Context	Context Reference	Comments / Rationale	Closely resembles...	Associated Reference 1	Associated Reference 2	Associated Reference 3	Associated Reference 4	Associated Reference 5	Initial Review Comments	Tentative Entity Breakout Session No.	Tentative Functional Category Breakout Session No.	Tentative Use Case Breakout Session No.
1003	1	IBM-319-30	RLS		Shall	Include audit content as recommended by HITSP standards or as determined by the marketplace if no standards are available	Data Transaction-Audit & Logging	Core		EHR - Lab	3.5.x.2	3.7 Maintain and Access Audit Log								2.2	3.2	4.1
1004	1	IBM-319-31	RLS		Shall	Format audit content as recommended by HITSP standards or as determined by the marketplace if no standards are available	Data Transaction-Audit & Logging	Core		EHR - Lab	3.5.x.3	3.7 Maintain and Access Audit Log								2.2	3.2	4.1
1005	1	IBM-319-32	RLS		Shall	Not allow edits to audit entries	Data Transaction-Audit & Logging	Core		EHR - Lab	3.5.x.4	3.7 Maintain and Access Audit Log								2.2	3.2	4.1
1006	1	IBM-319-33	RLS		Shall	Store audit entry for amount of time determined by law, accrediting agencies, marketplace and entity	Data Transaction-Audit & Logging	Core		EHR - Lab	3.5.x.5	3.7 Maintain and Access Audit Log								3.2	3.2	4.1
1007	1	IBM-319-34	RLS		Shall	Provide capability to print audit trail	Data Transaction-Audit & Logging	Core		EHR - Lab	3.5.x.6	3.7 Maintain and Access Audit Log							Feature	2.2	3.2	4.1
1008	1	IBM-319-35	RLS		Shall	Display audit trail only to those authorized to view the audit trail	Data Transaction-Audit & Logging	Core		EHR - Lab	3.5.x.7	3.7 Maintain and Access Audit Log								2.2	3.2	4.1
1121	1	NGIT-146	RLS		Shall	Maintain log of updates to patient-record locator index	Data Transaction-Audit & Logging	Core		Infrastructure		Updates to record locator data will include source of update provided by external system.								2.2	3.2	4.4
312	1	CSC-ALL-200	RLS		Shall	Accept and Maintain updates to patient identifying information.	Data Transaction-Data Access and Update	Core		Infrastructure										2.2	3.2	4.4
864	1	IBM-307-44	RLS		Shall	Receive request for lab test results location based on lab order number or other unique lab test identifier	Data Transformation-Data Filtering	Core		EHR - Lab	3.5.2.3	2.1 Clinician Requests Historical Results Location								2.2	3.3	4.1
320	1	CSC-ALL-280	RLS		Shall	Return actual identity values matched.	Information Location-Identity/Information Correlation	Core		Infrastructure										2.2	3.4	4.4
323	1	CSC-ALL-300	RLS		May	Use various identifiers in determining patient identity	Information Location-Identity/Information Correlation	Core		Infrastructure			CSC-ALL-290	CSC-ALL-290 RLS May Allow identities to be determined from other identifiers associated with the patient.						2.2	3.4	4.4
598	1	IBM-205-05	RLS		Shall	Match patient to respective sources of data when pre-populating the PHR from the NHIN	Information Location-Identity/Information Correlation	Core		Infrastructure	2.2.2.3x	3.2 Pre-populating a PHR								2.2	3.4	4.4
625	1	IBM-207-05	RLS		Shall	Match patient to respective sources of data when updating the PHR from the NHIN	Information Location-Identity/Information Correlation	Core		Infrastructure	2.1.5.2x	4.2 Updating a PHR								2.2	3.4	4.4
828	1	IBM-307-08	RLS		Shall	Receive demographic information for patient for query	Information Location-Identity/Information Correlation	Core		EHR - Lab	3.5.2.2x1	2.1 Clinician Requests Historical Results Location								2.2	3.4	4.1
829	1	IBM-307-09	RLS		Shall	Return one or more patients to the requesting clinician who meet the community defined minimum level of matching probability	Information Location-Identity/Information Correlation	Core		EHR - Lab	3.5.2.2x2	2.1 Clinician Requests Historical Results Location a. The community minimum level of matching probability should minimize false positives. b. "Fuzzy" matches should not be allowed. c. Wild card searches should not be allowed. d. A national identification number should not be required. e. Local identifiers may be determined by the community.								2.2	3.4	4.1
830	1	IBM-307-10	RLS		Shall	Returns error message if no patients are found who meet the community defined minimum level of matching probability	Information Location-Identity/Information Correlation	Core		EHR - Lab	3.2.3.0x	2.1 Clinician Requests Historical Results Location								2.2	3.4	4.1
319	1	CSC-ALL-270	RLS		Shall	Return pointers that enable retrieval of patient records from data sources / repositories	Information Location-Record Location	Core		Infrastructure										2.2	3.4	4.4
601	1	IBM-205-08	RLS		Shall	Support HL7 R2.4 and 3.0 feeds as incoming queries	Information Location-Record Location	Core		Infrastructure	2.2.2.3x	3.2 Pre-populating a PHR	IBM-207-08 IBM-209-16	IBM-207-08 RLS Shall Support HL7 R2.4 and 3.0 feeds as incoming queries	IBM-209-16 RLS Shall Support HL7 R2.4 and 3.0 feeds as incoming queries					2.2	3.4	4.4
602	1	IBM-205-09	RLS		Shall	Return one or more patients to the requesting consumer who meet the community defined minimum level of matching probability	Information Location-Record Location	Core	IBM-205-06	Infrastructure	2.2.2.3x	3.2 Pre-populating a PHR The community minimum level of matching probability should minimize false positives. "Fuzzy" matches should not be allowed. Wild card searches should not be allowed. A national identification number should not be required. Local identifiers may be determined by the community	IBM-207-09 IBM-209-18	IBM-207-09 RLS Shall Return one or more patients to the requesting consumer who meet the community defined minimum level of matching probability	IBM-209-18 RLS Shall Return one or more patients to the requesting clinician who meet the community defined minimum level of matching probability					2.2	3.4	4.4
604	1	IBM-205-11	RLS		Shall	Not return any clinical data; RLS shall only present links to appropriate records for NHIN queries	Information Location-Record Location	Core	IBM-205-06	Infrastructure	2.2.2.3x	3.2 Pre-populating a PHR	IBM-207-11 IBM-209-20	IBM-207-11 RLS Shall Not return any clinical data; RLS shall only present links to appropriate data for NHIN queries	IBM-209-20 RLS Shall Not return any clinical data; RLS shall only present links to appropriate data					2.2	3.4	4.4
606	1	IBM-205-13	RLS		Shall	Present the retrieved records to allow for aggregation	Information Location-Record Location	Core	IBM-205-11	Infrastructure	2.2.2.3x	3.2 Pre-populating a PHR								2.2	3.4	4.4
633	1	IBM-207-13	RLS		Shall	Present the retrieved records to allow for aggregation	Information Location-Record Location	Core	IBM-207-11	Infrastructure	2.1.5.2x	4.2 Updating a PHR	IBM-209-22	IBM-209-22 RLS Shall Present the retrieved records to allow for aggregation						2.2	3.4	4.4
665	1	IBM-208-05	RLS		Shall	Maintain list of published documents	Information Location-Record Location	Core		Infrastructure	2.z.5.2	5.1 PHR on the NHIN								2.2	3.4	4.4
682	1	IBM-209-17	RLS		Shall	Employ probabilistic matching for patient queries	Information Location-Record Location	Core		Infrastructure	2.3.1.2x	6.1 Provider access to PHR data								2.2	3.4	4.4
687	1	IBM-209-23	RLS		Shall	Also query remote marketplaces if such a request is made by the CDO administrator	Information Location-Record Location	Core		Infrastructure	2.3.1.2x	6.1 Provider access to PHR data								2.2	3.4	4.4
690	1	IBM-209-26	RLS		Shall	Receive notification from remote marketplace for data location request message	Information Location-Record Location	Core		Infrastructure	2.3.1.2x	6.1 Provider access to PHR data								2.2	3.4	4.4
691	1	IBM-209-27	RLS		Shall	Receive data locations from remote marketplaces	Information Location-Record Location	Core	IBM-209-23	Infrastructure	2.3.1.2x	6.1 Provider access to PHR data								2.2	3.4	4.4
692	1	IBM-209-28	RLS		Shall	Send error message to remote marketplace(s) if not authenticated or if content of data locations are not verified	Information Location-Record Location	Core		Infrastructure	2.3.1.2x	6.1 Provider access to PHR data								2.2	3.4	4.4
693	1	IBM-209-29	RLS		Shall	Send acknowledgement to remote marketplace for successful receipt of data location message	Information Location-Record Location	Core		Infrastructure	2.3.1.2x	6.1 Provider access to PHR data								2.2	3.4	4.4
694	1	IBM-209-30	RLS		Shall	Log interaction with remote marketplace	Information Location-Record Location	Core		Infrastructure	2.3.1.2x	6.1 Provider access to PHR data								2.2	3.4	4.4
695	1	IBM-209-31	RLS		Shall	Send data location information from remote marketplace to authorized requesting CDO administrator	Information Location-Record Location	Core		Infrastructure	2.3.1.2x	6.1 Provider access to PHR data								2.2	3.4	4.4
1036	1	NGIT-010	RLS		Shall	Query data sources for requested data and return data to requestor	Information Location-Record Location	Core		Infrastructure		Query using the patient identifiers and associated locations for data sources identified through MPI match.								2.2	3.4	4.4
316	1	CSC-ALL-240	RLS		Shall	Match patient Identities with a rate of false positive identifications less than one in 100,000.	Non-Functional-Accuracy	Core		Infrastructure										2.2	3.5	4.4
313	1	CSC-ALL-210	RLS		Shall	Store only patient names and demographics, along with pointers to Repositories containing data for the Patient.	Non-Functional-Business Rules	Core		Infrastructure										2.2	3.5	4.4
315	1	CSC-ALL-230	RLS		Shall	Not maintain pointers to individual health records, for example not maintain a separate pointer to a particular Lab order.	Non-Functional-Business Rules	Core		Infrastructure										2.2	3.5	4.4
318	1	CSC-ALL-260	RLS		Shall	Not allow clinician interaction to ascertain the identities of patients in other SNOs.	Non-Functional-Business Rules	Core		Infrastructure										2.2	3.5	4.4
605	1	IBM-205-12	RLS		Shall	Send result location (links) pointers for data located in local community repositories to authorized clinician within 5 seconds of receiving the request	Non-Functional-Performance	Core		Infrastructure	2.2.2.3x	3.2 Pre-populating a PHR NOTE: All following performance requirements are stated in terms of possible peak loads; determining the baseline for peak loads should become part of the certification process.							Feature - Performance	2.2	3.5	4.4
632	1	IBM-207-12	RLS		Shall	Send result location (links) pointers for data located in local community repositories to authorized clinician within 5 seconds of receiving the request	Non-Functional-Performance	Core		Infrastructure	2.1.5.2x	4.2 Updating a PHR NOTE: All following performance requirements are stated in terms of possible peak loads; determining the baseline for peak loads should become part of the certification process.							Feature - Performance	2.2	3.5	4.4
685	1	IBM-209-21	RLS		Shall	Send result location (links) pointers for data located in local community repositories to authorized clinician within 5 seconds of receiving the request	Non-Functional-Performance	Core		Infrastructure	2.3.1.2x	6.1 Provider access to PHR data NOTE: All following performance requirements are stated in terms of possible peak loads; determining the baseline for peak loads should become part of the certification process.							Feature - Performance	2.2	3.5	4.4
696	1	IBM-209-32	RLS		Shall	Send data location information from remote marketplace to authorized requesting clinician within 30 seconds of receiving request	Non-Functional-Performance	Core		Infrastructure	2.3.1.2x	6.1 Provider access to PHR data NOTE: All following performance requirements are stated in terms of possible peak loads; determining the baseline for peak loads should become part of the certification process.							Feature - Performance	2.2	3.5	4.4
805	1	IBM-305-12	RLS		Shall	Send notifications of new lab test result availability in real time when received from repository	Non-Functional-Performance	Core		EHR - Lab	3.5.3.1x4	1.5 Locator Service Processes New Results								2.2	3.5	4.1

ID-ONC	#	ID	Entities	Entity – Property Relation	Property	Functional Categories	Entity Role (i.e., Core or Edge)	Link to other requirements	Principal Context	Context Reference	Comments / Rationale	Closely resembles...	Associated Reference 1	Associated Reference 2	Associated Reference 3	Associated Reference 4	Associated Reference 5	Initial Review Comments	Tentative Entity Breakout Session No.	Tentative Functional Category Breakout Session No.	Tentative Use Case Breakout Session No.
868	1	IBM-307-48	RLS	Shall	Send result location (links) pointers for data located in local community repositories to authorized clinician within 5 seconds of receiving the request	Non-Functional-Performance	Core		EHR - Lab	3.5.2.5	2.1 Clinician Requests Historical Results Location NOTE: All following performance requirements are stated in terms of possible peak loads; determining the baseline for peak loads should become part of the certification process.							Feature - Performance	2.2	3.5	4.1
869	1	IBM-307-49	RLS	Shall	Send data location information from remote marketplace to authorized requesting clinician within 30 seconds of receiving request	Non-Functional-Performance	Core		EHR - Lab	3.5.2.x10	2.1 Clinician Requests Historical Results Location NOTE: All following performance requirements are stated in terms of possible peak loads; determining the baseline for peak loads should become part of the certification process.							Feature - Performance	2.2	3.5	4.1
688	1	IBM-209-24	RLS	Shall	Authenticate to the remote record locater	Security-Authentication	Core		Infrastructure	2.3.1.2x	6.1 Provider access to PHR data								2.2	3.6	4.4
689	1	IBM-209-25	RLS	Shall	Receive error message if requesting locater is not authorized or if content of data request location is not verified	Security-Authentication	Core		Infrastructure	2.3.1.2x	6.1 Provider access to PHR data								2.2	3.6	4.4
795	1	IBM-305-02	RLS	Shall	Verify authenticity of lab data repository sending new lab result location information	Security-Authentication	Core		EHR - Lab	3.5.1.2	1.5 Locator Service Processes New Results								2.2	3.6	4.1
825	1	IBM-307-05	RLS	Shall	Authenticates clinician requesting lab result location or sends message that not authenticated	Security-Authentication	Core		EHR - Lab	3.5.2.1	2.1 Clinician Requests Historical Results Location								2.2	3.6	4.1
835	1	IBM-307-15	RLS	Shall	Authorize release of laboratory test results locations based on regulations (federal, state, local), community policies, clinician status as ordering clinician, clinician status as provider of care for patient, patient consent restrictions and sensitivity restrictions	Security-Authorization	Core		EHR - Lab	3.5.2.4	2.1 Clinician Requests Historical Results Location								2.2	3.6	4.1
836	1	IBM-307-16	RLS	Shall	Confirm clinician status as ordering clinician for lab result	Security-Authorization	Core	IBM-303-01; IBM-304-01	EHR - Lab	3.5.2.4x	2.1 Clinician Requests Historical Results Location								2.2	3.6	4.1
837	1	IBM-307-17	RLS	Shall	Confirm non-ordering clinician status as provider of care for patient	Security-Authorization	Core		EHR - Lab	3.5.2.4x	2.1 Clinician Requests Historical Results Location								2.2	3.6	4.1
838	1	IBM-307-18	RLS	Shall	Confirm patient consent restrictions	Security-Authorization	Core		EHR - Lab	3.5.2.4x	2.1 Clinician Requests Historical Results Location								2.2	3.6	4.1
839	1	IBM-307-19	RLS	Shall	Confirm non-ordering clinician credentials relative to sensitivity restrictions	Security-Authorization	Core		EHR - Lab	3.5.2.4x	2.1 Clinician Requests Historical Results Location								2.2	3.6	4.1
840	1	IBM-307-20	RLS	Shall	Send error message if clinician not authorized to access data for identified patient	Security-Authorization	Core		EHR - Lab	3.5.2.4x	2.1 Clinician Requests Historical Results Location								2.2	3.6	4.1
54	1	ACN-02.5	Terminology Servers	Shall	Communicate in the NHIN using defined standards.	Data Transformation-Data Mapping/Translation	Edge	N/A	Infrastructure	No Reference	The system should adhere to standards as defined by the FHA (Federal Health Architecture) where appropriate.								1.4	3.3	4.4
55	1	ACN-02.5.1	Terminology Servers	Shall	Communicate in the NHIN using standard message formats.	Data Transformation-Data Mapping/Translation	Edge	N/A	Infrastructure	No Reference	N/A								1.4	3.3	4.4
56	1	ACN-02.5.1.1	Terminology Servers	Shall	Communicate with the NHIN using Health Level 7 (HL7) version 3 messages.	Data Transformation-Data Mapping/Translation	Edge	N/A	Infrastructure	No Reference	N/A								1.4	3.3	4.4
57	1	ACN-02.5.1.2	Terminology Servers	Shall	Communicate with the NHIN using Health Level 7 (HL7) Clinical Document Architecture (CDA) messages.	Data Transformation-Data Mapping/Translation	Edge	N/A	Infrastructure	No Reference	N/A								1.4	3.3	4.4
58	1	ACN-02.5.1.3	Terminology Servers	Shall	Communicate with the NHIN using NCPDP Script (v8.1 or greater) messages.	Data Transformation-Data Mapping/Translation	Edge	N/A	Infrastructure	No Reference	N/A								1.4	3.3	4.4
59	1	ACN-02.5.1.4	Terminology Servers	Shall	Communicate with the NHIN using HIPAA approved transactions.	Data Transformation-Data Mapping/Translation	Edge	N/A	Infrastructure	No Reference	N/A								1.4	3.3	4.4
60	1	ACN-02.5.2	Terminology Servers	Shall	Communicate with the NHIN using standard terminology.	Data Transformation-Data Mapping/Translation	Edge	N/A	Infrastructure	No Reference	N/A								1.4	3.3	4.4
61	1	ACN-02.5.2.1	Terminology Servers	Shall	Communicate with the NHIN using Health Level 7 (HL7) vocabulary standards for demographic information.	Data Transformation-Data Mapping/Translation	Edge	N/A	Infrastructure	No Reference	N/A								1.4	3.3	4.4
62	1	ACN-02.5.2.10	Terminology Servers	Shall	Communicate with the NHIN using LOINC vocabulary standards for laboratory test codes.	Data Transformation-Data Mapping/Translation	Edge	N/A	Infrastructure	No Reference	N/A								1.4	3.3	4.4
63	1	ACN-02.5.2.11	Terminology Servers	Shall	Communicate with the NHIN using terminology standards (such as CDISC and MedDRA) used to support clinical research and drug approval/monitoring.	Data Transformation-Data Mapping/Translation	Edge	N/A	Infrastructure	No Reference	N/A								1.4	3.3	4.4
64	1	ACN-02.5.2.12	Terminology Servers	Shall	Communicate with the NHIN using ICD-9 vocabulary standards for diagnosis.	Data Transformation-Data Mapping/Translation	Edge	N/A	Infrastructure	No Reference	N/A								1.4	3.3	4.4
65	1	ACN-02.5.2.2	Terminology Servers	Shall	Communicate with the NHIN using Health Level 7 (HL7) vocabulary standards for units of measure.	Data Transformation-Data Mapping/Translation	Edge	N/A	Infrastructure	No Reference	N/A								1.4	3.3	4.4
66	1	ACN-02.5.2.3	Terminology Servers	Shall	Communicate with the NHIN using Health Level 7 (HL7) vocabulary standards for immunizations.	Data Transformation-Data Mapping/Translation	Edge	N/A	Infrastructure	No Reference	N/A								1.4	3.3	4.4
67	1	ACN-02.5.2.4	Terminology Servers	Shall	Communicate with the NHIN using Health Level 7 (HL7) vocabulary standards for clinical encounters.	Data Transformation-Data Mapping/Translation	Edge	N/A	Infrastructure	No Reference	N/A								1.4	3.3	4.4
68	1	ACN-02.5.2.5	Terminology Servers	Shall	Communicate with the NHIN using The College of American Pathologists Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT) for laboratory result contents.	Data Transformation-Data Mapping/Translation	Edge	N/A	Infrastructure	No Reference	N/A								1.4	3.3	4.4
69	1	ACN-02.5.2.6	Terminology Servers	Shall	Communicate with the NHIN using The College of American Pathologists Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT) for non-laboratory interventions and procedures.	Data Transformation-Data Mapping/Translation	Edge	N/A	Infrastructure	No Reference	N/A								1.4	3.3	4.4
70	1	ACN-02.5.2.7	Terminology Servers	Shall	Communicate with the NHIN using The College of American Pathologists Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT) for anatomy.	Data Transformation-Data Mapping/Translation	Edge	N/A	Infrastructure	No Reference	N/A								1.4	3.3	4.4
71	1	ACN-02.5.2.8	Terminology Servers	Shall	Communicate with the NHIN using The College of American Pathologists Systematized Nomenclature of Medicine Clinical Terms (SNOMED CT) for diagnosis and problems.	Data Transformation-Data Mapping/Translation	Edge	N/A	Infrastructure	No Reference	N/A								1.4	3.3	4.4
72	1	ACN-02.5.2.9	Terminology Servers	Shall	Communicate with the NHIN using a set of federal terminologies related to medications, including: -The Food and Drug Administration's names and codes for ingredients -Manufactured dosage forms, drug products and medication packages -The National Library of Medicine's RxNORM for describing clinical drugs -The Veterans Administration's National Drug File Reference Terminology (NDF-RT) for specific drug classifications.	Data Transformation-Data Mapping/Translation	Edge	N/A	Infrastructure	No Reference	N/A								1.4	3.3	4.4
101	1	ACN-04.11	Terminology Servers	Shall	Contain mappings of local terminologies to NHIN standard terminologies.	Data Transformation-Data Mapping/Translation	Edge	N/A	Infrastructure	No Reference	Members of the NHIN must utilize standard terminology when exchanging information.								1.4	3.3	4.4
102	1	ACN-04.12	Terminology Servers	Shall	Present data to users in standard terminologies.	Data Transformation-Data Mapping/Translation	Edge	N/A	Infrastructure	No Reference	Data received from NHIN requests should be displayed in the NHIN terminology, unless the mapping from NHIN terminology back to local terminology exists.								1.4	3.3	4.4
103	1	ACN-04.13	Terminology Servers	Shall	Maintain sets of standard terminologies.	Data Transformation-Data Mapping/Translation	Edge	N/A	Infrastructure	No Reference	Each edge system is responsible for staying up to date on standard terminologies.								1.4	3.3	4.4
104	1	ACN-04.14	Terminology Servers	Shall	Maintain sets of local terminologies.	Data Transformation-Data Mapping/Translation	Edge	N/A	Infrastructure	No Reference	Each edge system is responsible for mapping from their local terminology to the standard NHIN terminology.								1.4	3.3	4.4
790	1	IBM-304-24	Terminology Servers	Should	Translate lab data to comply with HITSP or participant agreed upon content and messaging standards	Data Transformation-Data Mapping/Translation	Edge		EHR - Lab	3.4.1.5x	1.4 Data Repository Processes New Results								1.4	3.3	4.1
905	1	IBM-309-13	Terminology Servers	Should	Translate lab results data to comply with HITSP or participant agreed upon content and messaging standards	Data Transformation-Data Mapping/Translation	Edge		EHR - Lab	3.4.3.4x	2.3 Data Repository Sends Historical Results Data								1.4	3.3	4.1
1085																					
1079																					
420																					
1138																					
216																					
314																					
	977																				

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#	ID	Entities	Entity – Property Relation	Property	Functional Categories	Entity Role (i.e., Core or Edge)	Link to other requirements	Principal Context	Context Reference	Comments / Rationale	Closely resembles...	Associated Reference 1	Associated Reference 2	Associated Reference 3	Associated Reference 4	Associated Reference 5	Initial Review Comments	Tentative Entity Breakout Session No.	Tentative Functional Category Breakout Session No.	Tentative Use Case Breakout Session No.
1	CSC-BIO-010	CDO	May	Share data with appropriate government authorities. CDOs may share directly or use a third-party intermediary.	Data Content-Data Usage	Edge		Bio	p2, 1.1.1.2, 1.2.1.2		IBM-102-11						Duplicate	1.1	3.1	4.2
1	CSC-BIO-340	CDO	Should	Electronically collect, process, and transmit pertinent public health data in a secure fashion, using existing data exchange, ensure data is sent to appropriate PH agencies	Data Content-Data Usage	Edge	BIO-010, 400, 540	Bio	p09 s5, p10 s6, p11 s7		NGIT-054						Duplicate	1.1	3.1	4.2
1	CSC-BIO-560	CDO	May	Send results (and requested meta data) to PH Agencie(s)	Data Transaction-(Push)	Edge	BIO-580	Bio	1.1.5.1 1.2.5.1, p07 s3, p10 s6		CSC-BIO-270 CSC-BIO-310 CSC-BIO-250 CSC-BIO-260						Duplicate	1.1	3.2	4.2
1	NGIT-159	CDO	Shall	Transmit data to support public health biosurveillance	Data Transaction-(Push)	Edge		Bio		Data on patient-clinician encounters will be provided to a network communicating with public health agencies per agreement between entities. Agreements shall specify the role a CDO NHIN interface performs regarding the filtering, aggregation, anonymizati	IBM-102-11						Duplicate	1.1	3.2	4.2
1	CSC-BIO-500	CDO	Should	Filter collected data records to identify BIOsurveillance data and mark relevant data whether directly or through an intermediary as required by PHA or local policy	Data Transformation-Data Filtering	Edge	CSC-SEC-200	Bio	1.1.1.1 1.2.1.1, p07 s3, p10 s6		NGIT-055						Duplicate	1.1	3.3	4.2
1	CSC-BIO-510	CDO	May	Aggregate identified essential data	Data Transformation-Data Filtering	Edge		Bio	1.1.1.2 1.2.1.2		NGIT-054						Duplicate	1.1	3.3	4.2
1	NGIT-056	CDO	May	Support filtering rules defined by public health agencies	Data Transformation-Data Filtering	Edge		Bio			NGIT-055						Duplicate	1.1	3.3	4.2
1	IBM-209-38	CDO	May	Create an exception list of data that is not imported	Data Transformation-Data Mapping/Translation	Edge		CE - Consumer	2.3.2.3a	6.1 Provider access to PHR data	NGIT-113						Duplicate	1.1	3.3	4.3
1	CSC-BIO-520	CDO	Should	Accept responsibility and exercise reasonable precautions to ensure identified data is anonymized	Information Location-Identity/Information Correlation	Edge		Bio	1.1.2.1 1.2.2.1								Policy	1.1	3.4	4.2
1	CSC-BIO-110	CDO	Should	Ensure timely data delivery (within twenty-four hours of clinical event)	Non-Functional-Accuracy	Edge	BIO-030, 400	Bio	p2, p04 s2, p09 s5, p11 s7		IBM-102-11						Duplicate	1.1	3.5	4.2
1	IBM-103-11	CDO	Shall	Send biosurveillance data within 24 hours of the event	Non-Functional-Performance			Bio	1.2.5.1X	3.4 Integrated CDOs - Route, Transmit, Audit Log Requested Data	IBM-102-11						Duplicate	1.1	3.5	4.2
1	ACN-07.21.4	CDO	Shall	Enforce compliance with an established password policy.	Non-Functional-Robustness	Edge	N/A	Infrastructure	No Reference	All user, system and application (service) accounts must require strong passwords, including but not limited to length, complexity, and lifecycle (history, age, change, expiration).	ACN-07.31						Policy	1.1	3.5	4.4
1	ACN-07.21.9	CDO	Shall	Secure all hardware against damage and unauthorized modification.	Non-Functional-Robustness	Edge	N/A	Infrastructure	No Reference	Dedicated enclosures should be used to restrict access to hardware to authorized users. Data center facilities must offer protections, including but not limited to, UPS, humidity, temperature, flood, fire and natural disasters.							Policy	1.1	3.5	4.4
1	ACN-07.22	CDO	Shall	Ensure that controls are applied to prevent unauthorized access to the network.	Non-Functional-Robustness	Edge	N/A	Infrastructure	No Reference	Only trusted components may obtain access to the network.							Policy	1.1	3.5	4.4
1	ACN-07.22.1	CDO	Shall	Ensure that controls are applied to prevent unauthorized traffic from entering the network.	Non-Functional-Robustness	Edge	N/A	Infrastructure	No Reference	Devices, including but not limited to firewalls, routers, and switches, are installed on the network to allow only authorized traffic.							Policy	1.1	3.5	4.4
1	ACN-07.31	CDO	Shall	Enforce compliance with an established password policy.	Non-Functional-Robustness	Edge	N/A	Infrastructure	No Reference	All user, system and application (service) accounts must require strong passwords, including but not limited to length, complexity, and lifecycle (history, age, change, expiration).	ACN-07.21.4						Duplicate	1.1	3.5	4.4
1	ACN-07.33	CDO	Shall	Ensure that controls are applied to prevent unauthorized access to the network.	Non-Functional-Robustness	Edge	N/A	Infrastructure	No Reference	Only trusted components may obtain access to the network.							Policy	1.1	3.5	4.4
1	ACN-07.33.1	CDO	Shall	Ensure that controls are applied to prevent unauthorized traffic from entering the network.	Non-Functional-Robustness	Edge	N/A	Infrastructure	No Reference	Devices, including but not limited to firewalls, routers, and switches, are installed on the network to allow only authorized traffic.							Policy	1.1	3.5	4.4
1	ACN-07.23.1	CDO	Shall	Ensure that system complies with data privacy standards.	Security-Confidentiality	Edge	N/A	Infrastructure	No Reference	N/A							Policy	1.1	3.6	4.4
1	ACN-07.23.2	CDO	Shall	Ensure that system complies with HIPAA legislation.	Security-Confidentiality	Edge	N/A	Infrastructure	No Reference	Federal privacy and security requirements outlined in HIPAA should be implemented.							Policy	1.1	3.6	4.4
1	ACN-07.27	CDO	Shall	Ensure that an up-to-date Information Security Policy exists, which is aligned to industry best practice.	Security-Confidentiality	Edge	N/A	Infrastructure	No Reference	There must be a Security Policy that defines security controls the Edge organization is committed to maintaining.							Policy	1.1	3.6	4.4
1	ACN-07.28	CDO	Shall	Ensure an Acceptable Usage Policy that defines what is and is not acceptable usage of systems with access to NHIN data.	Security-Confidentiality	Edge	N/A	Infrastructure	No Reference	N/A							Policy	1.1	3.6	4.4
1	ACN-07.35	CDO	Shall	Comply with accepted security best practices.	Security-Confidentiality	Edge	N/A	Infrastructure	No Reference	Security management standards and best practices issued by recognized security standards organizations should be implemented.							Policy	1.1	3.6	4.4
1	ACN-07.36	CDO	Shall	Ensure that system complies with data privacy standards.	Security-Confidentiality	Edge	N/A	Infrastructure	No Reference	N/A							Policy	1.1	3.6	4.4
1	ACN-07.37	CDO	Shall	Ensure that system complies with HIPAA legislation.	Security-Confidentiality	Edge	N/A	Infrastructure	No Reference	Federal privacy and security requirements outlined in HIPAA should be implemented.							Policy	1.1	3.6	4.4
1	ACN-07.38	CDO	Shall	Ensure that system complies with state and local legislation.	Security-Confidentiality	Edge	N/A	Infrastructure	No Reference	State and local privacy, security and disclosure requirements outlined in applicable legislation must be implemented.							Policy	1.1	3.6	4.4
1	ACN-07.29	CDO	Shall	Confirm via self-certification or 3rd party certification that all relevant information security controls have been implemented and are appropriate for the level of sensitivity of NHIN data.	Security-Credentialing	Edge	N/A	Infrastructure	No Reference	Before connection to the NHIN is authorized, each Edge organization must self-certify or obtain 3rd party certification that they have appropriate security controls in place to protect the confidentiality, integrity and availability of HHS data they will							Policy	1.1	3.6	4.4
1	NGIT-072	CDO-CDO NHIN Interface	Shall	Transmit anonymized data as well formed messages to specific public health agencies	Data Transaction-(Push)	Core	NGIT-071	Bio	1.1.5.1, 1.2.5.1		IBM-102-08						Duplicate	2.5	3.2	4.2
1	IBM-102-04	CDO-CDO NHIN Interface	Shall	Filter data source HL7 streams to identify biosurveillance data meeting all specified (trigger) conditions for requirements requested by authorized Public Health agencies	Data Transformation-Data Filtering	Core		Bio	1.1.1.1	2.3 Individual CDOs - Filter, Transform, Anonymize, Link Requested Data	NGIT-064						Duplicate	2.5	3.3	4.2
1	IBM-103-04	CDO-CDO NHIN Interface	Shall	Filter data source HL7 streams to identify biosurveillance data meeting all specified (trigger) conditions for patient care and resource utilization requirements requested by authorized Public Health agencies	Data Transformation-Data Filtering	Core		Bio	1.2.1.1	3.3 Integrated CDOs - Filter, Transform, Anonymize, Link Requested Data For reference numbers 1.2.1 through 1.2.5, the recipients of requests for data from PH agencies are Integrated health care data suppliers, organizations that span jurisdictional or fu	NGIT-064						Duplicate	2.5	3.3	4.2
1	NGIT-061	CDO-CDO NHIN Interface	Shall	Support filtering rules defined by public health agencies (on a per entity basis)	Data Transformation-Data Filtering	Core		Bio			NGIT-064						Duplicate	2.5	3.3	4.2
1	IBM-103-08	CDO-CDO NHIN Interface	Shall	Transform data using approved standards as provided by HITSP or as agreed upon with ONC for the Architecture Prototype	Data Transformation-Data Mapping/Translation	Core		Bio	1.2.3.1	3.3 Integrated CDOs - Filter, Transform, Anonymize, Link Requested Data	IBM-102-08						Duplicate	2.5	3.3	4.2
1	NGIT-068	CDO-CDO NHIN Interface	Shall	Transform data into approved standards	Data Transformation-Data Mapping/Translation	Core		Bio	1.1.3.1, 1.2.3.1		IBM-102-08						Duplicate	2.5	3.3	4.2
1	IBM-102-13	CDO-CDO NHIN Interface	Should	Minimize double counting. The system should be able to determine when multiple and or independently submitted data refer to the same case (patient) or event.	Information Location-Identity/Information Correlation	Core		Biosurveillance	1.1.5.1X	2.4 Individual CDOs - Route, Transmit, Audit Log Requested Data	IBM-103-13						Duplicate	2.5	3.4	4.2

#	ID	Entities	Entity – Property Relation	Property	Functional Categories	Entity Role (i.e., Core or Edge)	Link to other requirements	Principal Context	Context Reference	Comments / Rationale	Closely resembles…	Associated Reference 1	Associated Reference 2	Associated Reference 3	Associated Reference 4	Associated Reference 5	Initial Review Comments	Tentative Entity Breakout Session No.	Tentative Functional Category Breakout Session No.	Tentative Use Case Breakout Session No.
1	IBM-207-07	CDO-CDO NHIN Interface	Shall	Require that the requesting institution provide appropriate demographic information to query data in the NHIN. Data required is determined by the community.	Information Location-Record Location	Core		Infrastructure	2.1.5.2x	4.2 Updating a PHR	IBM-205-07						Duplicate	2.5	3.4	4.4
1	IBM-209-14	CDO-CDO NHIN Interface	Shall	Require that the requesting institution provide appropriate demographic information to query data in the NHIN. Data required is determined by the community.	Information Location-Record Location	Core		Infrastructure	2.3.1.2x	6.1 Provider access to PHR data	IBM-205-07						Duplicate	2.5	3.4	4.4
1	CSC-NFR-240	CDO-CDO NHIN Interface	Shall	Require minimal software and other IP licensing requirements	Non-Functional-Business Rules	Core		Infrastructure									Policy	2.5	3.5	4.4
1	CSC-NFR-250	CDO-CDO NHIN Interface	Shall	Use only non-proprietary technologies and standards, that shall not require usage fees to holders of copyrights or patents	Non-Functional-Business Rules	Core		Infrastructure									Policy	2.5	3.5	4.4
1	CSC-ALL-30	CDO-CDO NHIN Interface	Shall	Only trade messages with entities and SNOs that restrict queries to properly authenticated and authorized users.	Security-Confidentiality	Core		Infrastructure									Policy	2.5	3.6	4.4
1	IBM-102-06	CDO-CDO NHIN Interface	Shall	Anonymize patient specific data before transmission to meet all applicable privacy and security considerations	Security-Confidentiality	Core		Bio	1.1.2.1	2.3 Individual CDOs - Filter, Transform, Anonymize, Link Requested Data	NGIT-060						Duplicate	2.5	3.6	4.2
1	IBM-103-06	CDO-CDO NHIN Interface	Shall	Anonymize patient specific data before transmission to meet all applicable privacy and security considerations	Security-Confidentiality	Core		Bio	1.2.2.1	3.3 Integrated CDOs - Filter, Transform, Anonymize, Link Requested Data	NGIT-060						Duplicate	2.5	3.6	4.2
1	CSC-SEC-230	CDO-CDO NHIN Interface	Shall	Establish pairwise trust relationships with the NHIN Interfaces of other RHIOs and SNOs	Security-Credentialing	Core		Infrastructure									Policy	2.5	3.6	4.4
1	IBM-311-07	CDO-EMR	Shall	Acknowledge successful receipt of lab results from repository or data stager	Data Content-Data Quality/Data Integrity	Edge		EHR - Lab	3.2.1.6	2.5 Clinician Receives Results into EHR	NGIT-123						Duplicate	1.1	3.1	4.1
1	IBM-311-09	CDO-EMR	Shall	Produce exception list of errors	Data Content-Data Quality/Data Integrity	Edge		EHR - Lab	3.2.1.7a	2.5 Clinician Receives Results into EHR *ONC Guidance: In general, the capabilities for updates and error corrections are important functions of a valid architecture and should be part of the prototype architecture. From the standpoint of the demonstration*	NGIT-113						Duplicate	1.1	3.1	4.1
1	NGIT-122	CDO-EMR	May	Verify integrity of unsolicited result transaction	Data Content-Data Quality/Data Integrity	Edge		EHR - Lab	3.2.1.2, 3.4.1.2	The system must validate the patient identifying information, integrity, authenticity, completeness and appropriateness of data received according to HITSP specified standards and implementation guidelines.	IBM-306-05						Duplicate	1.1	3.1	4.1
1	IBM-307-01	CDO-EMR	Shall	Query locator system for laboratory (historical) test results location	Data Transaction-(Pull)	Edge	IBM-305-07	EHR - Lab	3.2.3.0	2.1 Clinician Requests Historical Results Location	NGIT-128						Duplicate	1.1	3.2	4.1
1	IBM-306-01	CDO-EMR	Shall	Receive notification from locator service that new lab test results events are available	Data Transaction-(Push)	Edge	IBM-305-08; IBM-305-01	EHR - Lab	3.2.2.1	1.6 Clinician Notified of New Lab Results	NGIT-126						Duplicate	1.1	3.2	4.1
1	IBM-307-34	CDO-EMR	Should	Provide clinician ability to query for lab results based on a specified date range for a specified patient	Data Transformation-Data Filtering	Edge		EHR - Lab	3.2.3.3ax2	2.1 Clinician Requests Historical Results Location	IBM-307-32						Duplicate	1.1	3.3	4.1
1	IBM-307-36	CDO-EMR	Should	Provide clinician ability to query for lab results based on one or more types of lab data (chemistry, hematology, pathology, etc) for a specified patient	Data Transformation-Data Filtering	Edge		EHR - Lab	3.2.3.3ax3	2.1 Clinician Requests Historical Results Location	IBM-307-32						Duplicate	1.1	3.3	4.1
1	IBM-307-38	CDO-EMR	May	Provide clinician ability to query for lab results based on one or more specified lab tests for a specified patient	Data Transformation-Data Filtering	Edge		EHR - Lab	3.2.3.3ax4	2.1 Clinician Requests Historical Results Location	IBM-307-32						Duplicate	1.1	3.3	4.1
1	IBM-307-40	CDO-EMR	May	Provide clinician ability to query for lab results based on one, more or all local or remote marketplaces for a specified patient	Data Transformation-Data Filtering	Edge		EHR - Lab	3.2.3.3ax5	2.1 Clinician Requests Historical Results Location	IBM-307-32						Duplicate	1.1	3.3	4.1
1	IBM-307-42	CDO-EMR	Shall	Provide clinician ability to request for specific lab test results based on order number or other unique test result identification	Data Transformation-Data Filtering	Edge		EHR - Lab	3.2.3.3	2.1 Clinician Requests Historical Results Location *ONC Guidance: The unique identification number identified here would be obtained as part of some test ordering processes. The clinician would know this number if it was obtain in association with the orde*	IBM-307-32						Duplicate	1.1	3.3	4.1
1	IBM-101-03	CDO-EMR--Acute	Shall	Provide limited patient demographic data as specified in Biosurveillance use case in HL7 format for filtering by the CDO NHIN Interface System. Demographic data include: encounter date, patient information (date of birth, age, gender, resident zip code,	Data Content-Data Source	Edge		Bio	1.1.1.0X	1.1 Data Source - Ambulatory, Acute and ED EMRs	CSC-BIO-210 IBM-101-01 IBM-101-05						Duplicate	1.1	3.1	4.2
1	IBM-101-04	CDO-EMR--Acute	Shall	Provide clinical data as specified in Biosurveillance use case in HL7 format for filtering by the CDO NHIN Interface System. Clinical data include: patient class (outpatient, inpatient, ER) diagnosis/injury code, diagnosis type, diagnosis date and time,	Data Content-Data Source	Edge		Bio	1.1.1.0X	1.1 Data Source - Ambulatory, Acute and ED EMRs	CSC-BIO-220						Duplicate	1.1	3.1	4.2
1	IBM-101-01	CDO-EMR--Ambulatory	Shall	Provide limited patient demographic data as specified in Biosurveillance use case in HL7 format for filtering by the CDO NHIN Interface System. Demographic data include: encounter date, patient information (date of birth, age, gender, resident zip code, s	Data Content-Data Source	Edge		Bio	1.1.1.0X	1.1 Data Source - Ambulatory, Acute and ED EMRs Public health is eligible, under HIPAA, to receive data that even includes patient identifiers in appropriate situations. HIPAA "deidentification" criteria which seem to be alluded to here are relevant for p	CSC-BIO-210 IBM-101-03 IBM-101-05						Duplicate	1.1	3.1	4.2
1	IBM-101-02	CDO-EMR--Ambulatory	Shall	Provide clinical data as specified in Biosurveillance use case in HL7 format for filtering by the CDO NHIN Interface System. Clinical data include: patient class (outpatient, inpatient, ER) diagnosis/injury code, diagnosis type, diagnosis date and time,	Data Content-Data Source	Edge		Bio	1.1.1.0X	1.1 Data Source - Ambulatory, Acute and ED EMRs	CSC-BIO-220						Duplicate	1.1	3.1	4.2
1	IBM-101-05	CDO-EMR--ED	Shall	Provide limited patient demographic data as specified in Biosurveillance use case in HL7 format for filtering by the CDO NHIN Interface System. Demographic data include: encounter date, patient information (date of birth, age, gender, resident zip code, s	Data Content-Data Source	Edge		Bio	1.1.1.0X	1.1 Data Source - Ambulatory, Acute and ED EMRs	CSC-BIO-210 IBM-101-01 IBM-101-03						Duplicate	1.1	3.1	4.2
1	IBM-101-06	CDO-EMR--ED	Shall	Provide clinical data as specified in Biosurveillance use case in HL7 format for filtering by the CDO NHIN Interface System. Clinical data include: patient class (outpatient, inpatient, ER) diagnosis/injury code, diagnosis type, diagnosis date and time,	Data Content-Data Source	Edge		Bio	1.1.1.0X	1.1 Data Source - Ambulatory, Acute and ED EMRs	CSC-BIO-220						Duplicate	1.1	3.1	4.2
1	CSC-EHR-360	CDO-LIS	Should	Transmit preliminary, complete, final, and updated lab results to the ordering system or its designee.	Data Content	Edge	CSC-ALL-380	EHR - Lab	3.2.1.1, 3.3.1.0, 3.3.1.1		IBM-303-01						Duplicate	2.1	3.1	4.1
1	NGIT-119	CDO-LIS	Shall	Transmit well formed result messages according to a HITSP specified implementation instruction.	Data Transaction-(Push)	Edge		EHR - Lab	3.3.1.2	All parties must use common format and vocabulary for lab test result transmission	IBM-303-01						Duplicate	2.1	3.2	4.1
1	NGIT-141	CDO-LIS	May	Transmit well formed result messages according to HITSP specified standards and implementation instructions	Data Transaction-(Push)	Edge		EHR - Lab	3.4.1.5	Business rules may be implemented upon lab result repository data to route lab test results.	IBM-303-01						Duplicate	2.1	3.2	4.1
1	NGIT-098	Consumer System-PHR	Shall	Support termination of a consumers account	???-Unknown (NGIT)	Edge		CE - Consumer			CSC-CE-620						Duplicate	2.3		4.3
1	ACN-03.1	Consumer System-PHR	Shall	Enable people to access their Personal Health Record.	Data Content-Data Usage	Edge	N/A	CE - Consumer	2.1.4	Patients, who have consented, can access their Personal Health Record with their unique user id and password.	CSC-CE-510						Duplicate	2.3	3.1	4.3
1	IBM-207-27	Consumer System-PHR	Shall	Allow for annotations	Data Content-Data Usage	Edge	IBM-205-01	CE - Consumer	2.1.5.4a	4.2 Updating a PHR *ONC Guidance: The Harmonized Consumer Empowerment Use Case expressed the option for consumers to request data changes within the source systems (see Event 2.1.5.0) and the network services should support this function. The adjudication*	CSC-CE-580						Duplicate	2.3	3.1	4.3
1	CSC-CE-730	Consumer System-PHR	Shall	Receive data from another PHR or Repository in response to an authorized query	Data Transaction-(Pull)	Edge	CSC-ALL-710	CE - Consumer	2.2.2.4, 2.1.6.1a		NGIT-090 NGIT-089						Duplicate	2.3	3.2	4.3

#	ID	Entities	Entity – Property Relation	Property	Functional Categories	Entity Role (i.e., Core or Edge)	Link to other requirements	Principal Context	Context Reference	Comments / Rationale	Closely resembles...	Associated Reference 1	Associated Reference 2	Associated Reference 3	Associated Reference 4	Associated Reference 5	Intital Review Comments	Tentative Entity Breakout Session No.	Tentative Functional Category Breakout Session No.	Tentative Use Case Breakout Session No.
1	CSC-CE-770	Consumer System-PHR	May	Transmit registration and/or medication data in response to a query	Data Transaction-(Pull)	Edge	CSC-ALL-660	CE - Consumer	2.2.3.3, 2.2.4.3a,		NGIT-097 NGIT-096						Duplicate	2.3	3.2	4.3
1	IBM-205-21	Consumer System-PHR	Shall	Receive registration/medication history into the PHR/database	Data Transaction-(Pull)	Edge		CE - Consumer	2.2.2.4	3.2 Pre-populating a PHR	NGIT-090 NGIT-089						Duplicate	2.3	3.2	4.3
1	IBM-207-04	Consumer System-PHR	Shall	Transmit request for registration/medication history data to data/network systems	Data Transaction-(Pull)	Edge	IBM-207-01	CE - Consumer	2.1.5.2x	4.2 Updating a PHR	NGIT-097 NGIT-096						Duplicate	2.3	3.2	4.3
1	IBM-207-21	Consumer System-PHR	Shall	Receive registration/medication history into the PHR/database	Data Transaction-(Pull)	Edge		CE - Consumer	2.1.5.3	4.2 Updating a PHR	NGIT-090 NGIT-089						Duplicate	2.3	3.2	4.3
1	NGIT-085	Consumer System-PHR	Shall	Support user request to collect registration data from external source	Data Transaction-(Pull)	Edge		CE - Consumer	2.1.5.2		IBM-205-04						Duplicate	2.3	3.2	4.3
1	NGIT-086	Consumer System-PHR	Shall	Support user request to collect medication history data from external source(s)	Data Transaction-(Pull)	Edge		CE - Consumer	2.1.5.2		IBM-205-04						Duplicate	2.3	3.2	4.3
1	NGIT-087	Consumer System-PHR	Shall	Transmit well formed query request for registration data	Data Transaction-(Pull)	Edge		CE - Consumer	2.1.5.2		IBM-205-04						Duplicate	2.3	3.2	4.3
1	NGIT-088	Consumer System-PHR	Shall	Transmit well formed query request for medication history data	Data Transaction-(Pull)	Edge		CE - Consumer	2.1.5.2		IBM-205-04						Duplicate	2.3	3.2	4.3
1	IBM-207-32	Consumer System-PHR	Shall	Transmit data according to web-based security standards (SSL, etc.)	Data Transaction-(Push)	Edge		CE - Consumer	2.1.5.5x	4.2 Updating a PHR	IBM-207-33						Duplicate	2.3	3.2	4.3
1	NGIT-099	Consumer System-PHR	Shall	Support transmission of registration and medication history data to a subsequent provider of PHR services	Data Transaction-(Push)	Edge		CE - Consumer	2.2.3.3		IBM-211-02						Duplicate	2.3	3.2	4.3
1	CSC-CE-570	Consumer System-PHR	Shall	Enable consumer to modify consumer-entered data	Data Transaction-Data Access and Update	Edge	CSC-ALL-710	CE - Consumer	CE-p.8.s5.3, 2.1.5.4, 2.1.5.5, 2.1.5.5.a		IBM-207-26						Duplicate	2.3	3.2	4.3
1	IBM-205-23	Consumer System-PHR	Shall	Acknowledge receipt of registration/medication data	Data Transaction-Data Transaction Verification	Edge		CE - Consumer	2.2.2.5	3.2 Pre-populating a PHR	NGIT-091						Duplicate	2.3	3.2	4.3
1	IBM-207-23	Consumer System-PHR	Shall	Acknowledge receipt of registration/medication data	Data Transaction-Data Transaction Verification	Edge		CE - Consumer	2.2.2.5	4.2 Updating a PHR	NGIT-091						Duplicate	2.3	3.2	4.3
1	NGIT-101	Consumer System-PHR	May	Support direct access to registration and medication data for viewing by external user interfaces	Data Transformation-Data Rendering	Edge		CE - Consumer		PHR will authorize request for viewing of data	IBM-204-02 IBM-202-02 IBM-210-02 IBM-206-02						Duplicate	2.3	3.3	4.3
1	IBM-207-20	Consumer System-PHR	May	Publish the appropriate links back to the record locator	Information Location-Identity/Information Correlation	Edge		CE - Consumer	2.1.5.2x	4.2 Updating a PHR	IBM-205-20						Duplicate	2.3	3.4	4.3
1	IBM-207-02	Consumer System-PHR	May	Confirm with the consumer that the system will request information from data and network systems	Non-Functional-Accuracy	Edge		CE - Consumer	2.1.5.2x	4.2 Updating a PHR	IBM-205-02						Duplicate	2.3	3.5	4.3
1	IBM-207-03	Consumer System-PHR	May	Receive and validate the query request	Non-Functional-Accuracy	Edge		CE - Consumer	2.1.5.2x	4.2 Updating a PHR	IBM-205-03						Duplicate	2.3	3.5	4.3
1	IBM-207-35	Consumer System-PHR	May	Require the consumer to contact them directly for certain edits and annotations	Non-Functional-Accuracy	Edge		CE - Consumer	2.1.5.5a	4.2 Updating a PHR							Policy	2.3	3.5	4.3
1	CSC-CE-390	Consumer System-PHR	Shall	Be a full member of a SNO by meeting all SNO contractual, liability, security and other requirements.	Non-Functional-Business Rules	Edge	CSC-SEC-230	CE - Consumer		Because of the difficulties in authenticating consumers it is unlikely that a PHR will be able to meet the requirements of SNO membership unless it is affiliated to a CDO.							Policy	2.3	3.5	4.3
1	IBM-211-01	Consumer System-PHR	Shall	Terminate PHR account	Non-Functional-Scalability	Edge		CE - Consumer	2.2.4.3	7.2 Closing a PHR ONC Guidance: The Harmonized Consumer Empowerment Use Case included the transmission of registration and medication data from one Provider of PHR Services to another. The portability of registration information and medication histories	CSC-CE-600						Duplicate	2.3	3.5	4.3
1	NGIT-083	Consumer System-PHR	Shall	Authenticate consumers before accessing their personal health record	Security-Authentication	Edge		CE - Consumer	2.1.2.1	Provider of PHR service shall establish the consumer's identity	CSC-CE-510						Duplicate	2.3	3.6	4.3
1	CSC-CE-530	Consumer System-PHR	Shall	Persist consumer's access list	Security-Authorization	Edge		CE - Consumer	2.1.2.2, 2.2.1.3		IBM-203-04						Duplicate	2.3	3.6	4.3
1	CSC-CE-630	Consumer System-PHR	Shall	Notify customer that PHR data is transmited to another PHR	Security-Authorization	Edge		CE - Consumer	2.1.6.2a		IBM-211-08						Duplicate	2.3	3.6	4.3
1	CSC-CE-750	Consumer System-PHR	Shall	Accept queries for PHR data. The queries must contain authenticating and authorizing credentials provided by the consumer.	Security-Authorization	Edge	CSC-ALL-650	CE - Consumer	CE-p.9.s7.3, 2.2.3.1		CSC-CE-510						Duplicate	2.3	3.6	4.3
1	CSC-CE-760	Consumer System-PHR	Shall	Validate that data requestor is permitted by consumer access list	Security-Authorization	Edge	CSC-SEC-50, CSC-200, CSC-ALL-610	CE - Consumer	2.2.3.2, 2.2.4.2		IBM-209-06						Duplicate	2.3	3.6	4.3
1	IBM-209-04	Consumer System-PHR	Shall	Maintain a list of authorized users that can directly access the consumer's PHR	Security-Authorization	Edge	IBM-203-04	CE - Consumer	2.1.2.2x	6.1 Provider access to PHR data	IBM-203-04						Duplicate	2.3	3.6	4.3
1	NGIT-095	Consumer System-PHR	Shall	Authorize request for data	Security-Authorization	Edge		CE - Consumer		Authorize request for data per PHR parameters	IBM-209-06						Duplicate	2.3	3.6	4.3
1	NGIT-163	Consumer System-PHR	May	Enable consumer to mark only selected portions of the PHR as available to external authorized entities	Security-Authorization	Edge		CE - Consumer			NGIT-084						Duplicate	2.3	3.6	4.3
1	IBM-202-02	Consumer System-PHR-- PHR Registration info	Shall	Establish consumer's identity and authorize based on information provided	Security-Authentication	Edge		CE - Consumer	2.1.2.1	2.1 Logging into a PHR	IBM-204-02						Duplicate	2.3	3.6	4.3
1	IBM-206-01	Consumer System-PHR-- PHR Registration info	Shall	Prompt consumer for uniquely identifying information during log-in (not first time)	Security-Authentication	Edge	IBM-201-04	CE - Consumer	2.1.5.1	4.1 Logging into a PHR	IBM-204-01						Duplicate	2.3	3.6	4.3
1	IBM-206-02	Consumer System-PHR-- PHR Registration info	Shall	Establish consumer's identity and authorize based on information provided	Security-Authentication	Edge		CE - Consumer	2.1.5.1	4.1 Logging into a PHR	IBM-204-02						Duplicate	2.3	3.6	4.3
1	IBM-207-40	Consumer System-PHR-- PHR Registration info	Shall	Authenticate and verify the authorization of the requestor	Security-Authentication	Edge	IBM-202-01	CE - Consumer	2.2.4.2	4.2 Updating a PHR	CSC-CE-510						Duplicate	2.3	3.6	4.3
1	IBM-210-01	Consumer System-PHR-- PHR Registration info	Shall	Prompt consumer for uniquely identifying information during log-in (not first time)	Security-Authentication	Edge	IBM-201-05	CE - Consumer	2.1.5.1	7.1 Logging into a PHR	IBM-204-01						Duplicate	2.3	3.6	4.3
1	IBM-210-02	Consumer System-PHR-- PHR Registration info	Shall	Establish consumer's identity and authorize based on information provided	Security-Authentication	Edge		CE - Consumer	2.1.5.1	7.1 Logging into a PHR	IBM-204-02						Duplicate	2.3	3.6	4.3
1	IBM-104-05	Data Analysis and Secondary Use Systems-Public Health	Shall	Verify integrity of the transmission contents from the identified source including appropriate anonymized patient information per agreed to standards and policies	Data Content-Data Quality/Data Integrity	Edge		Biosurveillance	1.3.2.2	4.2 PH Agencies - Receive, Check, Store, Audit Log Requested Data	CSC-BIO-590 IBM-104-05 NGIT-078						Duplicate	2.4	3.1	4.2
1	NGIT-078	Data Analysis and Secondary Use Systems-Public Health	Shall	Verify integrity of transmission content	Data Content-Data Quality/Data Integrity	Edge		Bio	1.3.2.2	Integrity of transmission will measure the completeness and quality of the transmitted data.	CSC-BIO-590 IBM-104-05 NGIT-078						Duplicate	2.4	3.1	4.2
1	ACN-06.2.1	Data Analysis and Secondary Use Systems-Public Health	Shall	Allow federal public health users to access aggregated anonymized federal health data.	Data Content-Data Usage	Core	N/A	Bio	No Reference	N/A	ACN-06.2						Duplicate	2.4	3.1	4.2
1	ACN-06.2.2	Data Analysis and Secondary Use Systems-Public Health	Shall	Allow federal public health users to access aggregated anonymized state health data.	Data Content-Data Usage	Core	N/A	Bio	No Reference	N/A	ACN-06.2						Duplicate	2.4	3.1	4.2
1	ACN-06.2.3	Data Analysis and Secondary Use Systems-Public Health	Shall	Allow federal public health users to access aggregated anonymized local health data.	Data Content-Data Usage	Core	N/A	Bio	No Reference	N/A	ACN-06.2						Duplicate	2.4	3.1	4.2
1	ACN-06.2.4	Data Analysis and Secondary Use Systems-Public Health	Shall	Allow state public health users to access aggregated anonymized state health data.	Data Content-Data Usage	Core	N/A	Bio	No Reference	N/A	ACN-06.2						Duplicate	2.4	3.1	4.2
1	ACN-06.2.5	Data Analysis and Secondary Use Systems-Public Health	Shall	Allow state public health users to access aggregated anonymized local health data.	Data Content-Data Usage	Core	N/A	Bio	No Reference	N/A	ACN-06.2						Duplicate	2.4	3.1	4.2
1	ACN-06.2.6	Data Analysis and Secondary Use Systems-Public Health	Shall	Allow local public health users to access aggregated anonymized local health data.	Data Content-Data Usage	Edge	N/A	Bio	No Reference	N/A	ACN-06.2						Duplicate	2.4	3.1	4.2

#	ID	Entities	Entity – Property Relation	Property	Functional Categories	Entity Role (i.e., Core or Edge)	Link to other requirements	Principal Context	Context Reference	Comments / Rationale	Closely resembles…	Associated Reference 1	Associated Reference 2	Associated Reference 3	Associated Reference 4	Associated Reference 5	Initial Review Comments	Tentative Entity Breakout Session No.	Tentative Functional Category Breakout Session No.	Tentative Use Case Breakout Session No.
1	CSC-BIO-580	Data Analysis and Secondary Use Systems-Public Health	Shall	Publish its data requirements and inform CDOs where to send data	Data Content-Data Usage	Edge	BIO-550	Bio	1.3.1.1, p11 s7		IBM-104-02 NGIT-076 CSC-BIO-550 IBM-106-01						Duplicate	2.4	3.1	4.2
1	IBM-104-03	Data Analysis and Secondary Use Systems-Public Health	Shall	Receive anonymized data with associated randomized data links from all authorized data sources	Data Transaction-(Pull)	Edge	IBM-102-12 and IBM-103-12	Biosurveillance	1.3.2.1	4.2 PH Agencies - Receive, Check, Store, Audit Log Requested Data ONC Guidance: Event 1.3.2.0 is included for completeness. The NHIN contractors must address network requirements necessary to allow the public health agency to accomplish this activity, but	NGIT-077 CSC-BIO-590						Duplicate	2.4	3.2	4.2
1	CSC-BIO-550	Data Analysis and Secondary Use Systems-Public Health	Shall	Provide information to CDOs on which PH Agencies require notification of specific data	Data Transaction-(Push)	Edge	BIO-580	Bio	1.1.4.1 1.2.4.1, p11 s7		IBM-104-02 NGIT-076 CSC-BIO-580 IBM-106-01						Duplicate	2.4	3.2	4.2
1	IBM-106-01	Data Analysis and Secondary Use Systems-Public Health	Shall	Send biosurveillance participating Care Delivery Organizations additional or updated specification of essential data that must be transmitted to PH Agencies to monitor a previously detected event	Data Transaction-(Push)	Edge		Biosurveillance	1.z.2.1	6.1 PH Community - Monitor Detected Event - Case Tracking Data	IBM-104-02 NGIT-076 CSC-BIO-580 CSC-BIO-550						Duplicate	2.4	3.2	4.2
1	NGIT-077	Data Analysis and Secondary Use Systems-Public Health	Shall	Receive unsolicited transmission of biosurveillance data	Data Transaction-(Push)	Edge		Bio	1.3.2.0		IBM-107-13						Duplicate	2.4	3.2	4.2
1	NGIT-079	Data Analysis and Secondary Use Systems-Public Health	Shall	Acknowledge receipt of data	Data Transaction-Audit & Logging	Edge		Bio	1.3.2.3	Acknowledgement will convey acceptance of received data.	IBM-104-06						Duplicate	2.4	3.2	4.2
1	NGIT-076	Data Analysis and Secondary Use Systems-Public Health	Shall	Publish listing of required biosurveillance data to support filter	Data Transformation-Data Filtering	Edge		Bio	1.3.1.0		IBM-104-02 CSC-BIO-580 CSC-BIO-550 IBM-106-01						Duplicate	2.4	3.3	4.2
1	IBM-306-02	External User interfaces	Shall	Receive notification from locator service that new lab test results events are available	Data Transaction-(Push)	Edge		EHR - Lab	3.2.2.1	1.6 Clinician Notified of New Lab Results	NGIT-127						Duplicate	1.3	3.2	4.1
1	IBM-312-05	External User interfaces	Shall	Display laboratory test results in web application	Data Transformation-Data Rendering	Edge		EHR - Lab	3.2.4.3	2.6 Clinician Receives Historical Results in Web Application	ACN-01.6						Duplicate	1.3	3.3	4:1
1	CSC-NFR-110	External User interfaces	Shall	Produce user friendly error messages, which provide specific instructions, in common language, that user could use to rectify the problem [Usability]	Non-Functional-Robustness	Edge		Infrastructure									Policy	1.3	3.5	4.4
1	CSC-NFR-120	External User interfaces	Should	Not require users to learn any new user interface technology besides what a standard HTML browser requires [Usability]	Non-Functional-Robustness	Edge		Infrastructure									Policy	1.3	3.5	4.4
1	CSC-NFR-130	External User interfaces	Should	Support 'memorability' through simple interfaces and usage tooltips that remind users of common functions without recourse to separate user documentation	Non-Functional-Robustness	Edge		Infrastructure									Policy	1.3	3.5	4.4
1	IBM-307-12	MPI	Shall	Provide method for clinician and locator system to agree on patient identity through patient trait matching, shared MPI or patient identifier matching (as determined by the marketplace)	Information Location-Identity/Information Correlation	Core		EHR - Lab	3.5.2.2	2.1 Clinician Requests Historical Results Location	IBM-307-11						Duplicate	2.2	3.4	4.1
1	NGIT-134	MPI	Shall	Support unambiguous matching and subsequent correlation of patient identities for the purpose of locating records	Information Location-Identity/Information Correlation	Core		Infrastructure			NGIT-008						Duplicate	2.2	3.4	4.4
1	ACN-05.1.1	NHIN Administration	Shall	Abide by Service Level Agreements (SLA) for performance.	Non-Functional-Performance	Core	N/A	Infrastructure	No Reference	It is necessary for the NHIN and edge systems to have service level agreements for performance set up prior to data submission.	ACN-05.1						Duplicate	1.2	3.5	4.4
1	ACN-02.2.2	NHIN Administration-Audit Trail	Shall	Save copies of requests for patient data.	Data Transaction-Audit & Logging	Core	N/A	CE, EHR	3.2.3	All requests for patient data should be saved and include the requestor name and reason for request.	ACN-02.2.1						Duplicate	1.2	3.2	4.4
1	ACN-02.4.2	NHIN Administration-Audit Trail	Shall	Generate reports monitoring logging activity.	Data Transaction-Audit & Logging	Core	N/A	Infrastructure	No Reference	The NHIN system should generate monitoring logging activity reports to detail who has accessed the system and when the access occurred.	ACN-02.4.1						Duplicate	1.2	3.2	4.4
1	ACN-03.4	NHIN Administration-Audit Trail	Shall	Allow patients to view who has accessed their data.	Data Transaction-Audit & Logging	Edge	N/A	CE, EHR	2.1.1, 2.1.2	Patients should be able to view who has accessed their personal information and when the record was accessed.							Policy for edge systems	1.2	3.2	4.4
1	ACN-07.16.13	NHIN Administration-Audit Trail	Shall	Analyze consolidated logs to detect unauthorized or suspicious activity.	Data Transaction-Audit & Logging	Core	N/A	Infrastructure	No Reference	N/A							Policy	1.2	3.2	4.4
1	ACN-07.16.4	NHIN Administration-Audit Trail	Shall	Log all relevant infrastructure level access events.	Data Transaction-Audit & Logging	Core	N/A	Infrastructure	No Reference	User, administrator and system accessing infrastructure resources in the NHIN environment must be logged.	ACN-07.16.5						Duplicate	1.2	3.2	4.4
1	ACN-07.17.10	NHIN Administration-Audit Trail	Shall	Retain logs for a period of time as defined in the retention standard.	Data Transaction-Audit & Logging	Edge	N/A	Infrastructure	No Reference	All application, infrastructure and operating system log will be retained to ensure there are audit trails for future use. Retention timeline would be driven by local retention standards.							Policy for edge systems	1.2	3.2	4.4
1	ACN-07.17.13	NHIN Administration-Audit Trail	Shall	Consolidate logs from internal Edge Systems in a central repository.	Data Transaction-Audit & Logging	Edge	N/A	Infrastructure	No Reference	All system, application and Infrastructure logs will be consolidated to a centralized log server for analysis, alerting and reporting.							Policy for edge systems	1.2	3.2	4.4
1	ACN-07.17.14	NHIN Administration-Audit Trail	Shall	Analyze consolidated logs to detect unauthorized activity.	Data Transaction-Audit & Logging	Edge	N/A	Infrastructure	No Reference	N/A							Policy for edge systems	1.2	3.2	4.4
1	ACN-07.17.15	NHIN Administration-Audit Trail	Shall	Allow thresholds to be set to determine activities requiring further investigation.	Data Transaction-Audit & Logging	Edge	N/A	Infrastructure	No Reference	Thresholds will determine activity outside of the baseline of normal system activity.							Policy for edge systems	1.2	3.2	4.4
1	ACN-07.17.16	NHIN Administration-Audit Trail	Shall	Generated notifications based on anomalous system activity.	Data Transaction-Audit & Logging	Edge	N/A	Infrastructure	No Reference	Reports and Alerts must be triggered when established thresholds are exceeded.							Policy for edge systems	1.2	3.2	4.4
1	ACN-07.17.17	NHIN Administration-Audit Trail	Shall	Generate evidence to support incident management and response processes.	Data Transaction-Audit & Logging	Edge	N/A	Infrastructure	No Reference	Incident Management process defines actions that need to be performed incase of an incident outbreak e.g. virus /worm attack, denial of service ,etc							Policy for edge systems	1.2	3.2	4.4
1	ACN-07.17.4	NHIN Administration-Audit Trail	Shall	Log all relevant infrastructure level access events.	Data Transaction-Audit & Logging	Edge	N/A	Infrastructure	No Reference	User, administrator and system accessing infrastructure resources in the Edge System environment.	ACN-07.17.5						Duplicate	1.2	3.2	4.4
1	IBM-205-24	NHIN Administration-Audit Trail	Shall	Create an audit log for each entity that sends data to the PHR	Data Transaction-Audit & Logging	Core	IBM-205-21; IBM-2	Infrastructure	2.4.1.5	3.2 Pre-populating a PHR	IBM-211-09						Duplicate	1.2	3.2	4.4
1	IBM-207-24	NHIN Administration-Audit Trail	Shall	Create an audit log for each entity that sends data to the PHR	Data Transaction-Audit & Logging	Core	IBM-207-21; IBM-2	Infrastructure	2.4.1.5	4.2 Updating a PHR	IBM-211-09						Duplicate	1.2	3.2	4.4
1	IBM-209-41	NHIN Administration-Audit Trail	Shall	Create audit log	Data Transaction-Audit & Logging	Core		Infrastructure	2.3.2.6	6.1 Provider access to PHR data EXCEPTION: Given time constraints, the number of potential EHR vendors, and the lack of confirmed standards, it will be difficult to establish this functionality. Also, this functionality is problematic in so far as the a	IBM-211-09						Duplicate	1.2	3.2	4.4
1	CSC-CE-660	NHIN Administration-Consumer Authorization	Shall	Confirm consumer's identity before issuing credentials	Security-Authentication	Edge	CSC-SEC-50	CE - Consumer	2.2.1.1	This needs to be a vendor - consumer physical interaction for the forseeable future, not an electronic system interaction							Policy	1.2	3.6	4.3
1	ACN-07.15.2	NHIN Administration-Consumer Authorization	Shall	Permit individuals to select which users are restricted from viewing some or all of their data.	Security-Authorization	Edge	N/A	CE - Consumer	2.1.2.0	Individuals must be able to restrict access to all or portions of their data to specific Edge System users.	ACN-07.15.1						Duplicate	1.2	3.6	4.3

#	ID	Entities	Entity – Property Relation	Property	Functional Categories	Entity Role (i.e., Core or Edge)	Link to other requirements	Principal Context	Context Reference	Comments / Rationale	Closely resembles…	Associated Reference 1	Associated Reference 2	Associated Reference 3	Associated Reference 4	Associated Reference 5	Intital Review Comments	Tentative Entity Breakout Session No.	Tentative Functional Category Breakout Session No.	Tentative Use Case Breakout Session No.
1	IBM-103-01	NHIN Administration- Organization Registration	Shall	Register all public health agencies that are authorized to receive biosurveillance data from the CDOs	Security-Authorization	Edge	IBM-104-01	Biosurveillance	1.2.1.0	3.1 Integrated CDOs - Register Authorized PH Agencies	IBM-102-01						Duplicate	1.2	3.6	4.2
1	ACN-07.18.2	NHIN Overarching (ACN)	Shall	Ensure that only required components are enabled/activated for NHI operating systems.	Non-Functional-Robustness	Core	N/A	Infrastructure	No Reference	Only required access control lists, accounts and services are enabled; all others are disabled or deactivated.	ACN-07.18.1 ACN-07.18.2 ACN-07.18.3						Duplicate		3.5	4.4
1	ACN-07.18.3	NHIN Overarching (ACN)	Shall	Ensure that only required components are enabled/activated for NHI applications.	Non-Functional-Robustness	Core	N/A	Infrastructure	No Reference	Only required access control lists, accounts and services are enabled; all others are disabled or deactivated.	ACN-07.18.1 ACN-07.18.2 ACN-07.18.3						Duplicate		3.5	4.4
1	IBM-304-09	Repositories	Shall	Store lab test results in data repository and note restrictions for use (providers of care list, patient consent restrictions or sensitivity restrictions)	Data Storage-Persistent Data Storage	Edge	IBM-304-01; IBM-302-01	EHR - Lab	3.4.1.4	1.4 Data Repository Processes New Results	IBM-314-01						Duplicate	1.5	3.3	4.1
1	IBM-314-06	Repositories	Should	Provide ability to configure amount of time for data storage	Data Storage-Persistent Data Storage	Edge		EHR - Lab	3.4.y.6	3.2 Data Storage	IBM-314-07						Duplicate	1.5	3.3	4.1
1	IBM-205-16	Repositories	Shall	Transmit data according to web-based security standards (SSL, etc.)	Data Transaction-(Push)	Core	IBM-205-04	Infrastructure	2.2.2.4x	3.2 Pre-populating a PHR	IBM-209-36						Duplicate	1.5	3.2	4.4
1	IBM-207-16	Repositories	Shall	Transmit data according to web-based security standards (SSL, etc.)	Data Transaction-(Push)	Core	IBM-207-04	Infrastructure	2.1.5.2x	4.2 Updating a PHR	IBM-205-17						Duplicate	1.5	3.2	4.4
1	IBM-207-17	Repositories	Shall	Transmit data according to HITSP standards	Data Transaction-(Push)	Core		Infrastructure	2.1.5.2x	4.2 Updating a PHR	IBM-205-17						Duplicate	1.5	3.2	4.4
1	IBM-209-35	Repositories	Shall	Transmit data according to web-based security standards (SSL, etc.)	Data Transaction-(Push)	Edge		CE - Consumer	2.3.2.2x	6.1 Provider access to PHR data	IBM-209-36						Duplicate	1.5	3.2	4.3
1	IBM-304-21	Repositories	Shall	Automatically transmit lab test results to EHR of ordering provider (in local or remote marketplace)	Data Transaction-(Push)	Edge	IBM-311-01	EHR - Lab	3.4.1.5z	1.4 Data Repository Processes New Results This action depends on providers preferences and whether they want to receive or not receive results automatically or as specified in clinician's lab order message	IBM-304-18						Duplicate	1.5	3.2	4.1
1	IBM-304-22	Repositories	Shall	Automatically transmit lab test results to EHR of other providers of care who are not ordering clinician (local or remote marketplace) if appropriate based copy to directions in lab order and provider preferences to receive or not receive results automatically	Data Transaction-(Push)	Edge	IBM-311-01	EHR - Lab	3.4.1.5z	1.4 Data Repository Processes New Results	IBM-304-19						Duplicate	1.5	3.2	4.1
1	CSC-ALL-220	RLS	Shall	Resolve patient identity ambiguities, based on patient demographic attributes, and patient identity mapping algorithms.	Information Location-Identity/Information Correlation	Core		Infrastructure			NGIT-008						Duplicate	2.2	3.4	4.4
1	CSC-ALL-290	RLS	May	Allow identities to be determined from other identifiers associated wit the patient.	Information Location-Identity/Information Correlation	Core		Infrastructure			CSC-ALL-300						Duplicate	2.2	3.4	4.4
1	CSC-ALL-310	RLS	May	Persist a list of other SNOs that have been queried in the past for information on a patient.	Information Location-Identity/Information Correlation	Core		Infrastructure			IBM-307-28						Duplicate	2.2	3.4	4.4
1	IBM-205-10	RLS	Should	Employ zero tolerance matches for consumer initiated queries through the NHIN	Information Location-Record Location	Core	IBM-205-06	Infrastructure	2.2.2.3x	3.2 Pre-populating a PHR In the context of consumer initiated queries from the NHIN, it is only appropriate to display fully validated results. Queries may be validated via questions regarding point of care, etc. To be determined by community.	IBM-207-10						Policy	2.2	3.4	4.4
1	IBM-207-08	RLS	Shall	Support HL7 R2.4 and 3.0 feeds as incoming queries	Information Location-Record Location	Core		Infrastructure	2.1.5.2x	4.2 Updating a PHR	IBM-205-08						Duplicate	2.2	3.4	4.4
1	IBM-207-09	RLS	Shall	Return one or more patients to the requesting consumer who meet the community defined minimum level of matching probability	Information Location-Record Location	Core	IBM-207-06	Infrastructure	2.2.2.3x	4.2 Updating a PHR The community minimum level of matching probability should minimize false positives. "Fuzzy" matches should not be allowed. Wild card searches should not be allowed. A national identification number should not be required. Local identif	IBM-205-09						Duplicate	2.2	3.4	4.4
1	IBM-207-10	RLS	Should	Employ zero tolerance matches for consumer initiated queries through the NHIN	Information Location-Record Location	Core	IBM-207-06	Infrastructure	2.1.5.2x	4.2 Updating a PHR In the context of consumer initiated queries from the NHIN, it is only appropriate to display fully validated results. Queries may be validated via questions regarding point of care, etc.	IBM-205-10						Duplicate	2.2	3.4	4.4
1	IBM-207-11	RLS	Shall	Not return any clinical data; RLS shall only present links to appropriate data for NHIN queries	Information Location-Record Location	Core	IBM-207-06	Infrastructure	2.1.5.2x	4.2 Updating a PHR	IBM-207-11						Duplicate	2.2	3.4	4.4
1	IBM-209-16	RLS	Shall	Support HL7 R2.4 and 3.0 feeds as incoming queries	Information Location-Record Location	Core		Infrastructure	2.3.1.2x	6.1 Provider access to PHR data	IBM-205-08						Duplicate	2.2	3.4	4.4
1	IBM-209-18	RLS	Shall	Return one or more patients to the requesting clinician who meet the community defined minimum level of matching probability	Information Location-Record Location	Core	IBM-209-13; IBM-209-14 Also see: EHR - Clinician Requests Historical Results Location - IBM-307 13	Infrastructure	2.3.1.2x	3.2 Pre-populating a PHR The community minimum level of matching probability should minimize false positives. "Fuzzy" matches should not be allowed. Wild card searches should not be allowed. A national identification number should not be required. Local i	IBM-205-09						Duplicate	2.2	3.4	4.4
1	IBM-209-20	RLS	Shall	Not return any clinical data; RLS shall only present links to appropriate data	Information Location-Record Location	Core		Infrastructure	2.3.1.2x	6.1 Provider access to PHR data	IBM-207-11						Duplicate	2.2	3.4	4.4
1	IBM-209-22	RLS	Shall	Present the retrieved records to allow for aggregation	Information Location-Record Location	Core		Infrastructure	2.3.1.2x	6.1 Provider access to PHR data	IBM-207-13						Duplicate	2.2	3.4	4.4
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